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# THE JOURNAL

OF THE

## MEDICAL ASSOCIATION OF GEORGIA

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### HYPERPARATHYROIDISM

CHRISTOPHER JOHN McLoughlin, M.D.

*Atlanta*

Hyperparathyroidism is by no means a rare disease. It is much more common than has been supposed. It plays a prominent part in the genito-urinary field, for as many as 4 per cent of the cases of nephrolithiasis have been reported to have hyperparathyroidism as a causative agent. Orthopedist and surgeon should suspect the condition in all cases of fractures which seem spontaneous or to result from slight trauma. The internist also must be aware of the generalized systemic changes which may occur in this disease. It is found most frequently in the North Atlantic States, the northwestern part of Europe, the upper Mississippi Valley, and the central and southern portions of Europe. It is to be noted that it is much more commonly encountered in the northern sections of the United States than in the southern areas. At the Massachusetts General Hospital, during a period of eight years, it was found that the incidence of this disease occurred in one case per fifteen hundred general hospital admissions.

This condition was first described by Courtial in 1700, but it was not until Von Recklinghausen's classic description was given in 1891 that the disease became more widely recognized. For many years after this men groped blindly for a solution to this phenomenon. In 1926, Mandl of Vienna stumbled upon the answer accident-

ally. He believed that by implanting parathyroid tissue in the body he could cure the disease. He found, however, that this made the patient worse. While operating to remove the glands which he had inserted he found a large adenoma in a parathyroid gland of the patient. Removal of this gland produced a remarkable regression of symptoms in this particular patient. Two years later Gold reported a second cure of this disease by removal of a parathyroid tumor. And so, from this time on, the treatment of the disease was thus firmly established.

#### *Etiology*

For many years the etiology of this condition was unknown. Von Recklinghausen believed that it was due to an inflammatory process, but much later he admitted the fallacy of this theory. Many writers reported finding enlarged parathyroid glands associated with such conditions as nephritis, tetany, epilepsy, eclampsia, and osteomalacia, without realizing the cause of this relationship. The solution to the problem of etiology was provided by the work of Mandl.

#### *Pathology*

The changes which occur in these parathyroid tumors can be of two types. First, a hyperplastic type with diffuse uniform changes throughout all the glandular tissue. Second, a neoplastic type in which the proliferation is limited to one gland or even a portion of it. Rarely it may involve two glands. An adenoma of the parathyroid may weigh from one to twenty grams, although Snell and Mayo reported one which weighed one hundred and one grams. Microscopic examination of the bones shows de-

From Emory University School of Medicine.  
Read before the Medical Association of Georgia, Macon,  
May 9, 1946.

calcification with a great increase of osteoclasts, osteoblasts, and fibrous tissue. There is destruction of the bone trabeculae and sometimes formation of giant cell tumors.

### *Symptoms*

This disease occurs almost twice as frequently in women as in men. It usually occurs in adults but has been reported to occur in children as young as twelve years of age. The onset is usually insidious but the symptoms may become acute. The symptoms of the disease depend upon the predominant feature present and the particular part of the body affected. This may be either the urinary tract or the skeletal system. All the symptoms of a typical case of hyperparathyroidism can be produced in animals by the administration of the parathyroid hormone.

The general symptoms complained of are muscular weakness, hypotonia, lack of appetite, nausea, fatigue, constipation, and pain in the bones. These symptoms are probably due to hypercalcemia which reduces the tone of the nerves and muscles. Polydipsia and polyuria are frequently present and are attributed to the increased excretion of calcium and phosphorus in the urine. The polyuria may be sometimes so marked as to suggest diabetes insipidus. Symptoms arising from the urinary tract are very common and may be due to calculi and renal damage. The symptoms complained of may be ureteral colic, bladder irritation, blood and pus in the urine. These signs may be so severe as to present the symptoms of kidney failure and uremia. Symptoms arising from decalcification of the skeletal structure include weakness, aches and pains in the bones and joints, simulating arthritis or neuritis, and loss of weight. Fractures may follow trivial injuries. These fractures very often will occur through bony cysts. The findings of an epulis of the jaw is quite common. Changes in the urinary tract may

occur without changes in the skeletal structure, but if the disease progresses for any length of time changes in both structures will be noted.

### *Diagnosis*

The laboratory is of utmost importance as an aid in the diagnosis of hyperparathyroidism. The characteristic biochemical findings of a hyperfunctioning parathyroid are:

1. An increase in the calcium level of the blood.
2. A decrease in the inorganic phosphorus in the blood.
3. Excessive amounts of calcium in the urine.
4. Excessive amounts of inorganic phosphorus in the urine.
5. In cases in which there is skeletal involvement there will be an increase in the serum phosphatase.

Generally the blood calcium will exceed 11.5 milligrams in almost 100 per cent of cases (9 to 11 milligrams per 100 cc. of blood is normal). The calcium may become elevated as much as 20 milligrams per 100 cc. of blood. Hypophosphatemia is very commonly found in all cases except those in which the calcium is increased above 15 milligrams per cent. In these cases the phosphorus content of the blood will also rise above normal levels. Under ordinary circumstances seventy to ninety per cent of the calcium ingested will be excreted in the feces. In hyperparathyroidism, however, the ratio is reversed so that approximately ninety per cent of the calcium is excreted in the urine. Consequently, the Sulkowitch test for determining the calcium content of the urine is a quick, easy and valuable way of demonstrating excessive calcium excretion. The other studies upon the blood can be done readily and accurately in any standard laboratory. These studies, together



with a review of the clinical symptoms and x-rays of the long bones and kidneys, should provide adequate evidence of the presence of an abnormal parathyroid gland.

*Differential Diagnosis:* It is generally not very difficult to distinguish hyperparathyroidism from other diseases which may similarly affect the skeletal system. The negative calcium balance, plus the disturbance of the inorganic phosphorus and serum calcium of the blood will soon serve to differentiate two conditions which may appear similar on x-ray or from the history. These conditions may be such as Paget's disease, rickets, osteomalacia, extensive fractures, or carcinomatosis involving the skeleton. Other conditions which need not be confused include osteoporosis, resulting from senile changes or from disuse, hypothyroidism, adenomas of the pituitary bodies, adolescent rickets, solitary bone cysts, etc.

#### *Treatment*

As soon as the internist has proved to his own satisfaction that a true case of hyperparathyroidism exists, the patient should then be turned over to a competent surgeon. The surgeon must be particularly careful to examine all of the parathyroid glands, for hyperplasia may occur in more than one gland. He should also keep in mind the possibility of aberrant or supernumerary glands. The removal of a parathyroid adenoma will almost invariably result in complete remission of all symptoms. Within a few hours the calcium content of the blood will return to normal. Very slowly the bone cysts may fill up, although this will generally take a great many months. There will be a great improvement in osteoporosis of the bone. X-ray to the region of the parathyroids has been tried as a substitute for surgery, but found to be almost useless. Its use should be reserved for those in whom surgical removal of the parathyroid tissue is not possible.

#### *Summary*

The parathyroid glands are the controlling influence in the regulation of calcium and phosphorus metabolism. Hyperfunction of these glands for a long period of time produces an increase in calcium and a decrease in the phosphorus content of the blood. This in turn leads to a series of changes which are most manifest in the urinary tract and the skeletal structures. The x-ray and clinical laboratory provide ready aid in establishing a diagnosis. The excretion of excessive amounts of calcium and phosphorus in the urine and the increase of calcium and decrease of inorganic phosphorus in the blood may provide definite data upon which to make a positive diagnosis, even in the absence of definite bony changes visible on x-ray. The surgical removal of a diseased parathyroid gland provides one of the miracles of modern medicine today. Almost complete recovery occurs in these patients following the removal of the affected gland or glands. All signs and distressing symptoms disappear rapidly and the patient soon returns to his normal health.

#### *Conclusions*

Hyperparathyroidism is by no means as rare as it was considered twenty years ago. Twice as many women are affected as men. More than half of the individuals affected show evidence of urinary lithiasis. The diagnosis is readily established and surgical resection results in complete cure.

#### DISCUSSION OF PAPER OF DR. CHRISTOPHER J. McLOUGHLIN

DR. J. C. METTS (Savannah): Dr. McLoughlin is to be congratulated on his excellent presentation of this paper. The illness which he describes, while undoubtedly more common than formerly believed, is still rare enough to be frequently overlooked. I must confess that my own acquaintance with it has been in large clinics where a certain number of them are kept under observation and periodically presented for the benefit of visiting firemen. Undoubtedly we frequently overlook these cases or classify them as rheumatoid or neurotic, and only where our attention is called to the condition are we apt to recognize them for what they are.

The essayist has called to our attention the cardinal symptoms of pain, hypotonia, and muscular weakness; and the clinical and laboratory findings of hypercalcemia,

hypophosphatemia and the characteristic x-ray findings in skeletal involvement. But I would like to emphasize that blood calcium and phosphorus studies are not always typical. Several years ago Dr. Broderick and I had a patient under observation who, I still think, was a case of hyperparathyroidism. This woman was 30 years old, weighed 47 pounds and had had numerous fractures of all her long bones. The x-rays demonstrated marked decalcification, but because of the relatively normal blood phosphorus we were definitely able to convince ourselves that a parathyroid tumor was present. I would like to emphasize, too, that such cases should be referred to someone especially skilled in this type of surgery. Parathyroid glands are far from easy to recognize; and certainly at the autopsy are often difficult to locate. It seems unlikely that the surgeon's task would be less difficult. Testing the urine for excessive calcium is an excellent point. The test is simple and when positive would indicate that further investigation of calcium metabolism was indicated.

Again I wish to thank Dr. McLoughlin for an excellent paper on a timely subject.

DR. CHRISTOPHER J. McLOUGHLIN (Atlanta): It is true that this condition is not very apparent when the individual first presents himself. It does not stand out and make itself known by its symptoms. It is necessary to hunt for this particular condition. At the Mayo Clinic in a period of twenty years only 16 of these cases were discovered. Keating became interested and a year and a half later 22 cases had been discovered. Of course, they have a very great number of patients each year, but the discovery of 22 cases means that this condition can be found if one is careful to search for it.

At the Massachusetts General Hospital one case occurred in 1500 admissions. I became interested a little over a year ago and spoke to a few urologists about it and in the past year I have seen four additional cases. If we are on the search for it, it can be found. The calcium in the blood may be normal but there are several factors which will influence this. The serum protein of the blood, if it is low, will lower the total calcium by 1 milligram per cent for each milligram of total protein as it is lowered. Consequently, there are numerous factors which could not be brought out in this discussion which have to be considered also. I find it a very fascinating condition and it is a great satisfaction to discover one of these patients and have the patient operated on and see the wonderful results that do occur.

#### TUBERCULOSIS

The problem of infection in tuberculosis is simplified by the fact that healthy carriers of the organism, comparable to diphtheria carriers, are unknown. Between one-half and two-thirds of the population carry evidence of infection with tuberculosis, but in few does the disease give rise to a lesion which releases tubercle bacilli. Occasional patients with chronic fibroid phthisis in whom the disease has reached an equilibrium may, to be sure, continue to excrete bacilli for years and remain persistent foci of infection, but such cases are not carriers in the ordinary sense. For practical purposes the real source of infection is the active, sputum-positive case. Henry D. Chadwick, M.D. and Alton S. Pope, M.D., *The Modern Attack on Tuberculosis*, The Commonwealth Fund, Revised, 1946.

*The JOURNAL would like to record the scientific work of Georgia doctors. It earnestly requests, therefore, that each physician in the State who publishes a contribution in some other medical periodical submit an abstract of the article for these columns.*

## THE BLOOD SEDIMENTATION TEST AS AN AID IN DIAGNOSIS

C. PURCELL ROBERTS, M.D.

Atlanta

Dispersed red corpuscles exhibit suspension stability in the plasma, but once they are aggregated into rouleaux there is gravitational fall. A qualitative increase in plasma fibrinogen, supplied by the liver, appears to be the chief cause of quickened sedimentation.

It is impressive that in health an individual shows the same, personal sedimentation rate year-after-year, as much part-and-parcel of him as his electrocardiographic signature. During certain diseases there appears a gradually varying abnormal rate, which may be plotted as a smooth curve. Daily change in erythrocyte settling speed is so determined that it is possible to extrapolate with near accuracy. An inherent inertia prevents vacillation, and trend is clearly depicted.

It is recognized that the blood sedimentation test is a measure of a nonspecific phenomenon which is accelerated by inflammatory processes, notably tuberculosis and rheumatism, by tissue destruction, cancer, pregnancy and to a slight extent menstruation. While it is thus an indirect reflection of various events in the organism, clinical experience has indicated that, in a given entity, blood sedimentation rather regularly shows predictable behavior. Erythrocyte settling may be rapid in the face of minimal physical and laboratory signs; or it may show a surprising normality in spite of a violent and hectic course. Such paradoxical activity has been interpreted as evidence that the test is arbitrary, but these very peculiarities are of value in that they may add

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For technical details the reader is referred to a previous article, J. M. A. Georgia, 32:259-261 (August) 1943.



a fitting part to the puzzle of diagnosis. Non-conformist association is not characteristic of the test, however, since often there is close correlation with pathologic findings. For example, if one follows the progress of cancer by this index, slight elevations of rate may be seen with the primary tumor, values in the moderate-to-considerable range with local extension, and marked quickening at the time of generalized metastasis.

The test is simply carried out in the office or hospital, the desired information being at hand within an hour or less time. Of the various methods, the Westergren technic is most directly informative, since the long tube presents minimal impediment to free fall and there is no necessity of correction for anemia.

The usual normal, or homeostatic, rate is less than 10 mm. fall in the first hour. (Blood sedimentation rate is abbreviated as BSR):

#### ABSTRACTED CASE REPORTS

*Case 1*—W.F.C., male, 20. Headache, frontal, persistent for week. Apathetic, bland description of pain. Discharged from Army because of headaches. After intensive study, opinion that vasomotor rhinitis probably responsible. No relief from codeine, ergotamine, desensitization injections.

P.H. Nervous and rundown before entry into service.

P.E. Normal except for swollen turbinates.

BSR 1 mm. first hour. Marked stability (practically no fall) is often seen in psychoneurotic patients, and here reinforced the clinical impression; was helpful in ruling out contributory disease process.

*Case 2*—E.P., male, 50. Three days before had experienced an attack of substernal oppression, choking, and pain into neck and arms lasting 45 minutes. Appearance good. B. P. 120/85. Heart sounds of fairly good quality; no friction rub.

P.H. No angina.

BSR 3 mm. was corroborative of clinical impression and normal electrocardiogram against infarction, since increased settling accompanies myocardial inflammation.

*Case 3*—C.N.P., male, 52. Right hydrothorax, enlarged tender liver, dependent edema. Attack of prostrating pain, 4 weeks earlier, in chest, into neck and arms. For 3 months chronic cough, occasional hemoptysis, weight loss. Electrocardiogram now showed changes of myocardial disease, not pattern of infarction. Pleural fluid: abundant red cells.

BSR 5 mm. Low normal BSR, as regularly seen in uncomplicated congestive failure, contradicted bronchiogenic carcinoma. Sustained improvement followed bed-rest, digitalization and diuretics.

*Case 4*—W.W.T., male, 37. Severe abdominal distress, vomiting, board-like distended belly. Suspected intestinal obstruction. Not in shock: B. P. 160/110. Temp. 101° F. WBC 13,600 with 80 per cent neutrophils.

P.H. Recurrent attacks, none so severe as this time.

BSR, on third day, 10 mm., on seventh, 8 mm. Low

BSR was consistent with acute pancreatitis as was proved by blood amylase of 533 next day. With intestinal obstruction, due to elevated fibrinogen and thus increased rouleaux tendency, BSR is expected to be high.

*Case 5*—L.E.S., female, 21. Enlarged lymph nodes in neck, axillas and groins. Spleen palpable. Slight fever. Little systemic reaction. RBC 3,800,000, Hb. 70 per cent. WBC 16,500 with 72 per cent mononuclear cells, some suggestive of blast forms. Heterophile antibody test was negative.

BSR, on first day, 13 mm.; on sixth, 18 mm.; on thirteenth, 12 mm. Barely elevated BSR, as usually seen in infectious mononucleosis, contradicted the impression of possible leukemia. Later tests positive for infectious mononucleosis.

*Case 6*—J.B.E., male, 57. Lower abdominal cramps and constipation, 3 months. Weight loss 10 pounds. Local reputation as hypochondriac. Was told by doctor pains due to "gas". Ruddy, well looking. Hb. 90 per cent, RBC 4,850,000. WBC 8,600. Left lower quadrant and suprapubic tenderness and muscle spasm. After exhibition of atropine, barium enema negative except for "spasm" sigmoid. Benzidine 2 plus.

BSR 54 mm. The abnormal BSR was consistent with clinical suspicions and positive test for occult blood. At exploration, extensive colloid carcinoma of sigmoid colon was found.

*Case 7*—D.T.L., female, 45. Intense lower abdominal pain. Patient obviously of low pain threshold personality. No vomiting but nausea and frequent stools. Exquisite tenderness of lower abdomen, particularly in right lower quadrant and during pelvic examination. After penicillin, temperature dropped from 101° F. to 99° F.; WBC from 16,800 to 8,900.

BSR, on second day, 91 mm.; on sixth, 103 mm.; on ninth, 82 mm. Striking rate of BSR was consistent with pelvic inflammatory disease and advisory against early operation. Acute appendicitis is accompanied by low rates. Later operation revealed plastic salpingitis.

*Case 8*—L.C.J., male, 31. Persistent fever (101°-103° F.) in spite of penicillin and sulfadiazine past week for pneumonitis. Now generalized erythematous rash. Not prostrated.

P.E. Systolic apical murmur, grade II. X-ray of chest: diffuse infiltrations. WBC 12,250 with 72 per cent neutrophils. Urine: albumen 2 plus, occasional RBC.

BSR 96 mm. Markedly elevated BSR was suggestive of rheumatic exacerbation and contradicted both drug rash and subacute bacterial endocarditis which show low rates. Diagnosis of rheumatic erythema and interstitial pneumonia later confirmed by changes of acute carditis in electrocardiogram and by response to salicylate therapy.

#### Conclusion

In abstracting these illustrative cases, pertinent and even pathognomonic clinical data have been omitted, both because of required brevity and for the purpose of focusing attention on the sedimentation rate in its relation to the differential diagnosis. By no means has there been a wish to minimize the importance of the clinical history, careful physical diagnosis and routine laboratory studies, nor to promote the idea that the sedimentation rate is an easy way to sidestep the efforts of clinical decision. The test is recommended as a worthwhile adjunct

to the basic procedures. While nonspecific, it is not capricious, since blood sedimentation shows no more deviation from expectation than clinical entities veer from the textbook patterns and, indeed, more often demonstrates that regularity which justifies clinical reliance.

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## RH FACTOR IN BLOOD TYPING

A. J. AYERS, M.D.  
*Atlanta*

According to Landsteiner's discovery, all human blood has four groups depending upon the presence of two agglutinogens in the red cells and two agglutinins in the serum or plasma. I wish to urge the use of the International Classification of Blood Grouping. When using this classification, the factors A and B are in the red cells, developing soon after birth and remaining throughout life. The International Classification of blood groups O, A, B, and AB is the one recognized and used by most scientific publications.

In this section, laboratories making blood typing often report the type or group in two classifications; namely, the International and the Moss classifications. Thus group O would be reported to the physician as O-4. The accurate grouping of the blood with cross-matching of the donor's and recipient's blood has made whole blood transfusions a safe therapeutic agent in modern medicine. There are other agglutinogens in the red cells; namely, M, N, and P. These factors are important as well as A and B in medical legal cases.

In 1939 Landsteiner and Wiener discovered a new agglutinable factor in white human red blood cells, and this factor is different from the other agglutinogens, A,

B, M, N, and P. This new antigen was designated the Rh factor and, carrying on their investigations, this new factor was found to be present in the red blood cells of about 85 per cent of all white individuals. Persons having the Rh factor in his red cells are designated Rh positive and those lacking this factor are designated Rh negative. The Rh factor is inherited as a simple Mendelian factor, and it has been pointed out by Levine and Wiener that the Rh is not a single factor but a complex of closely related antigens (agglutinogens) in various combinations in the red cells. Isohemagglutinins do not normally occur as do A and B, nor do they occur in the tissue cells and the body fluids.

Isoimmunization to the Rh factor may occur in two conditions; one or more transfusions of the Rh positive blood into an Rh negative recipient. Also in pregnancy where the mother is Rh negative and the father and fetus are Rh positive. There is an antibody response to the antigenic stimuli and this response varies greatly with different individuals. Some Rh negative persons do not become sensitized, or the antibodies are so weak they are not detected with present-day tests for the anti-Rh factor. An isoimmunized person usually remains sensitized throughout life, even though the antibodies soon disappear from the blood serum or plasma. The reticuloendothelial cell is responsible for the antibody formation and, once sensitized, will remain responsive to minute quantities of the antigen for many years.

In blood transfusions a typing or a cross-matching of the blood is not sufficient and not scientific medicine. An Rh factor determination is most important. Occasionally we see marked hemolytic transfusion reactions of variable severity following a transfusion of Rh positive blood when the recipient is Rh negative. Donor and recipient

should have group compatible blood and the same Rh factor. Never give a young girl whose blood is Rh negative blood from an Rh positive person. She will be sensitized for life and her first child may be a still-born. Levine has demonstrated that more than 90 per cent of erythroblastosis results from isoimmunization of an Rh negative mother bearing an Rh positive fetus, the positive factor being inherited from the father. The Rh positive fetal blood or a colloidal substance passes through the placenta, serves as an antigen and leads to the development of the Rh antibodies in the mother's blood. When the antibodies begin to form in the mother's blood, they pass through the placenta and are stored in the tissue of the infant. When the tissues of the infant are not saturated there is no icterus and no anemia. Then for some unknown reason the Rh antibodies are released into the circulation and results in hemolysis of the Rh positive red cells of the infant, causing the condition known as erythroblastosis fetalis or hemolytic disease of the newborn. In a small number of cases the child is born alive and well. A few hours or days after birth the infant becomes anemic and jaundiced. Proper treatment must be instituted at once if you are going to save the child.

The technical procedure is the testing of the patient's blood for the Rh factor, using a commercial anti-Rh serum which is available for this work, also a similar test of the blood for the isoimmunization antibodies. The method that is in general use for Rh typing is one adopted by Levine. The test is done in small Kahn tubes, using a 2-4 per cent of fresh washed red cells suspended in saline. A drop of the cell suspension is placed in the tube, then a drop of the anti-Rh serum. The tube is shaken and placed in a water bath at 37.5 C. for one hour. At

this time the tube is removed gently and the sedimented cells are examined with a hand lens. Strong positives are easily recognized with the naked eye. The sediment is rough or irregular and not very firm, therefore never handle the tube roughly. A smooth sediment of cells is suggestive of a negative reaction. Tubes appearing to be negative should be examined under the microscope for the presence of any small clumps. The test is used for testing unknown serums for antibodies in isoimmunized patients. In this test a known Rh positive group O red cell suspension is used. The serum and cell mixture is incubated in a water bath at 37.5 C. for one hour.

Recently Diamond reported a new test for the Rh antibodies using a very heavy cell suspension (30-50 per cent) and a drop of the serum on a slide at 37.5 C. The slide is gently rotated and reading can usually be made within five minutes. This test proved to be most reliable in the hands of laboratory workers.

In this short paper some of the important factors have been considered. However, investigators are learning new things about the many complicated blood problems. The clinician can aid greatly by being Rh conscious and request laboratory study in all cases of pregnancy when considering a blood transfusion.

#### BIBLIOGRAPHY

1. Wiener, A. S.: Blood Group and Transfusions, Illinois, Charles C. Thomas, 1945, ed. 3.
2. Wiener, A. S.: Conglutination Test for Rh Sensitization, J. Lab. & Clin. Med. 30:662-667 (Aug.) 1945.
3. Davenport, J. W., Jr.: Clinical Aspects of the Rh Factor, South. M. J. 38:648, 1945.
4. Diamond, L. K., and Ahelson, N. M.: Detections of the Rh Sensitization, Evaluation of Tests for Rh Antibodies, J. Lab. & Clin. Med. 30:668, 1945.
5. Levine, P., and Waller, R. K.: Erythroblastosis Fetalis in the First Born, J. Hematology, 1:143, 1945.

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## THE RH FACTOR IN INFANCY AND CHILDHOOD

R. C. McGAHEE, M.D.

*Augusta*

In 1900 Karl Landsteiner discovered the four blood groups and thus made possible the giving of blood from one person to another. From the beginning, however, reactions were encountered for which there was no explanation. One of the greatest recent discoveries in this connection was that of Weiner and Landsteiner, reported in 1940<sup>1</sup>. While attempting to produce agglutinins they injected the blood of rhesus monkeys into rabbits and found that antibodies were thus produced which would agglutinate the "red blood cells of 85 per cent of the white population independently of the blood groups or M, N, and P factors". These individuals were designated as Rh positive, the term Rh being derived from the rhesus monkey used in the experiment. The red blood cells of the remaining 15 per cent were designated Rh negative. All races of peoples do not show the same ratio of positive to negative reactions. The Negro shows about 92 per cent positive, the Chinese 98.5, the Japanese 98 to 99, and of the Filipinos and Indonesians studied and reported by Weiner<sup>2</sup> all were positive. Lubinski and his associate<sup>3</sup> reported 91.7 per cent of Jewish mothers and infants in their studies were Rh positive.

The Rh factor is inherited as a Mendelian dominant, is present in fetal life and remains unchanged throughout life. This factor is an antigen attached to the red blood cells. (In potency it is not as active as the A and B antigens but more so than the M, N and P ones). When cells containing the factor or antigen enter the circulation of

Rh negative persons they may form anti-Rh antibodies or agglutinins to destroy these foreign cells. Such persons are isoimmunized; that is to say, they have developed antibodies against certain human bloods. The cells containing the Rh antigen may be introduced (1) as transfused or extravascularly injected blood, or (2) may pass from an Rh positive fetus through the placenta into the mother.

The amount of blood necessary to bring about this state of isoimmunization may be very small. Levine calculated as little as 0.13 cc. of fetal blood passing through the placenta may immunize an Rh negative mother. In this instance the transfer is likely over a period of time and probably larger amounts by direct injection would be required. All bloods are not equally antigenic, neither do all individuals build antibodies to the same extent nor retain them for the same period of time. Once an individual has become isoimmunized that person may remain in a sensitized state for life.

The clinical importance of the Rh factor is in connection with (1) intra-group transfusion reactions, and (2) that group of conditions seen in the fetus and newborn known as erythroblastosis fetalis.

### *The Rh Factor in Relation to Blood Transfusions*

Isoimmunized persons may on the receipt of Rh positive blood have hemolytic reactions of varying degrees of severity and which may even be fatal. These reactions do not usually occur until three or more transfusions have been given. Reports of the incidence of such reactions vary. Weiner<sup>4</sup> states "That as many as 90 per cent of cases of intra-group transfusions hemolysis can be traced to the Rh factor." On the other hand, Degowin<sup>5</sup> states that in 186 transfusion reactions of all types only 6 or 3.7 per cent were found which could be attributed to isoimmunity to the Rh factor.

From the Department of Pediatrics, University of Georgia School of Medicine.

Read before the Medical Association of Georgia, Macon, May 9, 1946.

All Rh negative persons, male or females, young or old, should be given Rh negative blood. One cannot foretell when and how many subsequent transfusions may have to be given. In case of the female, blood transfusions even in infancy may lead to isoimmunization and have hazardous effects later in pregnancy. Even blood injected intramuscularly to infants at birth for hemorrhagic disease of the newborn or after difficult deliveries may sensitize them. Today with the use of vitamin K this procedure is less common than formerly.

Since such reactions are mild at first and increase in severity with subsequent transfusions, one is usually forewarned and such persons should have their Rh type determined before more blood is given. Transfusion reactions following isoimmunization because of pregnancy tend to be much more severe, so much so that even the first transfusion may be fatal. It is therefore imperative that any mother who has given birth to an erythroblastic infant be transfused only with Rh negative blood.

#### *The Rh Factor in Relation to Erythroblastosis Fetalis*

The importance of the Rh factor as a cause of intra-group transfusion reactions was followed by Levine and his associates<sup>6</sup>, who noted that these reactions occurred with exceptional frequency in women who had stillbirths or infants with erythroblastosis fetalis. Under the heading of erythroblastosis fetalis are included (1) hydrops fetalis, (2) icterus gravis, and (3) certain severe anemias of the newborn. All three types show pathologically excessive destruction of erythrocytes and an effort on the part of the body to replace these cells. Anemia may be evident at birth with a red blood cell counts as low as 2 or 3 million cells per cubic millimeter, or it may require a few days for the anemia to develop. As a

result of rapid blood destruction bilirubin is formed faster than it can be disposed of and the tissues are stained often at an amazing degree of rapidity. Within a few hours the tissues may be stained a deep bronze color, the kidney tubules may be blocked, and the basal ganglia of the brain stained and damaged, a condition known as kernicterus, with subsequent death; or if the patient lives he or she may become a mental and physical cripple. The edema has not been satisfactorily explained, but renal failure, injury to the general capillary bed and diminished plasma protein have been suggested as possible causes. As evidence of an effort to overcome the blood destruction other tissues start to make blood, especially the liver, the spleen and kidneys. The enlargement of these organs is in a large measure due to this extramedullary hemopoiesis. Young red blood cells with their nuclei still present reach the circulation. Most of these are normoblasts but some as young as erythroblasts are seen. Normally a few nucleated red blood cells are found in the blood of the newborn, but not to the extent seen in erythroblastosis fetalis.

The diagnosis of erythroblastosis fetalis is not always easy either clinically or pathologically. Icterus neonatorum, icterus neonatorum praecox, obstructive jaundice and sepsis are fairly easily differentiated, but congenital syphilis may mimic it to the last detail.

The question of relationship of the Rh factor to abortions, stillbirths and malformations has been raised. However, as yet there is no satisfactory proof that the Rh factor is responsible for any condition in the fetus except that of erythroblastosis fetalis.

*Incidence.* This is variously stated to be from 1 in 200 to 1 in 500 of all births. Potter<sup>7</sup> found 1 in 370 births in 10,378 deliveries at the Chicago Lying-in Hospital. Only 2 of her 28 reported cases were deliv-

ered as primipara, or 1 in 2,380; the remaining 22 representing 1 in 245 for the multipara group. Erythroblastosis fetalis accounts for from 6 to 8 per cent of fetal deaths or deaths during the newborn period. In Potter's series 22 of the 360 deaths in fetuses and newborns were due to erythroblastosis fetalis.

From 10 to 13 per cent of all marriages are potentially productive of erythroblastic offspring; that is, the wife is Rh negative and the husband is Rh positive. However, only 2 to 4 per cent of such unions result in erythroblastic offspring. A number of factors account for this seeming paradox. The antigenic potency of red cells of some fetuses is low; the competency of the placenta as a barrier varies and some mothers either do not produce anti-Rh agglutinins or do so to a slight degree. Also, it is true that when agglutinins are made and delivered back to the fetus they in turn are not all equally badly affected.

Erythroblastosis fetalis is about three times more common in males as in females, and it tends to be more severe in the males.

First pregnancies are usually uneventful. It would seem that this first exposure to the Rh positive fetal cells serves to place the mother in a sensitized state similar to that after blood transfusions, except a higher degree of sensitivity results. While first pregnancies are usually uneventful Levine and Waller<sup>8</sup> found 28 instances of erythroblastosis fetalis in 700 Rh negative women occurring in their first pregnancies. In 19 of the 28 instances the mothers had been previously transfused, supposedly with Rh positive blood.

Once a mother has given birth to an erythroblastic child all subsequent babies with Rh positive blood will be erythroblastic. It does not necessarily follow that these mothers cannot bear healthy babies again. Those who are Rh negative will not be affected. If

a father be homozygous; that is, in case both of his parents were Rh positive, all subsequent babies will be Rh positive and therefore affected. If the father be heterozygous; that is, one of his parents was Rh positive and the other Rh negative, one-half of such subsequent babies would be Rh negative and therefore not affected.

*Prevention of erythroblastosis fetalis.* No satisfactory method of prevention is known. Artificial termination of pregnancy before too much damage be done to the fetus has been suggested. But such babies are either already erythroblastic and/or the problem of prematurity is produced. Artificial impregnation with sperms from an Rh negative donor has also been suggested. The hope remains that some method of maternal desensitization may be evolved.

*Prognosis in erythroblastosis fetalis.* Infants with hydrops fetalis are usually born dead or die shortly afterwards. Other forms are less severe but the mortality in the group as a whole is about 50 per cent. Diamond reports a mortality of only 7 per cent if those dying on the first day are excluded. Prompt and proper treatment will materially lower the mortality in this disease.

*Treatment.* Blood transfusions are the most effective means of correcting the pathologic changes wrought by erythroblastosis. At times only a few of the infant's red blood cells are destroyed and such infants would survive unaided. At other times all of the red blood cells are destroyed. If the condition is suspected before birth donors of Rh negative blood should be arranged for and then only typing would be necessary later. Infants with cell counts of 3 to 4 million per cubic millimeter or less should be given blood. Those with less than 3 million demand it immediately if they are to survive. Blood should be given in sufficient amounts, at such intervals and for such a time as nec-



essary to maintain levels of 4 million cells or above. At times transfusions twice daily may be necessary. About 10 cc. of blood per pound of body weight is recommended. It is to be remembered that anti Rh agglutinins transferred from the mother to the baby are soon destroyed and evidence of their activity after 2 or 3 weeks is unlikely. Such infants thereafter are normal unless liver damage or brain injury occurred.

If Rh negative blood cannot be obtained or Rh typing is not available, the mother's blood cells may be used if carefully washed of plasma and resuspended in physiologic salt solution or plasma free of agglutinins. These cells survive for 80 to 120 days, which is the usual life of red blood cells. If Rh positive cells are given they are soon destroyed and perhaps by their destruction lead to further liver and brain damage. Iron and liver therapy later may speed recovery.

In only about 90 to 92 per cent of babies with erythroblastosis fetalis do the mothers have Rh negative blood. At first thought this would invalidate the Rh factor as the causative one. In this group must be considered<sup>9</sup> (1) "Errors in performing the Rh test, (2) errors in making the diagnosis of erythroblastosis, (3) initiation of erythroblastosis by some entirely unrelated agent and (4) immunization by a factor in one of the Rh sub-groups." Here it is to be remembered that the Rh antigen is not a simple entity but sub-groups may and do exist. And thus in turn the agglutinins these antigens provoke are increased in number and complexity. The blocking antibodies are an example. Finally, the A and B antigens may isoimmunize the mother, leading to erythroblastosis in her infant.

#### *Summary*

About 15 per cent of our white population have in their red blood cells an antigen known as the Rh factor. When this factor

comes into contact with the blood of patients who do not have it they may produce in themselves anti-Rh agglutinins. This admixture of blood may be by transfusion or by pregnancy. When such a state of isoimmunization is produced, and if present in sufficient degree, the further administration of blood containing the Rh factor may provoke a reaction of varying degree of severity, up to death.

In order to prevent the production of this state of isoimmunization it is wise to give to Rh negative individuals only Rh negative blood. If such a state of isoimmunization has already been produced it is best to give only Rh negative blood. Should such a person once manifest a reaction to incompatible Rh blood, it becomes imperative that no further transfusions with Rh positive blood be given. This is especially true in isoimmunization produced by pregnancy.

Ten to 12 per cent of marriages are potentially productive of erythroblastic children. However, only 2 to 4 per cent actually do produce such children. The first child is usually normal. Once a mother has given birth to an erythroblastic baby all subsequent pregnancies with Rh positive fetuses will produce erythroblastic babies. Whether all such babies will be Rh positive depends on whether the father is homozygous or heterozygous in type. In the latter event one half will be Rh negative, and therefore unaffected. The mortality in the offspring depends on the type of clinical manifestation, its severity and the treatment used. The over-all mortality has been about 50 per cent. The treatment is prompt diagnosis and the transfusion of proper group Rh negative blood in such a manner as to maintain a fairly normal blood level until the infant's own blood destruction is over and its own hemopoietic tissues can maintain the blood level at a satisfactory point.

Such infants, with a few exceptions, such as brain injury due to kernicterus, fully recover.

#### BIBLIOGRAPHY

1. Landsteiner, K., and Wiener, A. S.: *Proc. Soc. Exper. Biol. & Med.* 43:223, 1940.
2. Wiener, A. S., Jr.: *J. Lab. & Clin. Med.* Vol. 30 (Nov.) 1945.
3. Lubinski, H.; Benjamin, B., and Stearn, G. J.: *Canad. M. A. J.* 53:28-30 (July) 1945.
4. Wiener, A. S.: *Arch. Path.* 32:227, 1941.
5. *J. Lab. & Clin. Med.* Vol. 30 (Feb.) 1945.
6. Levine, P.; Katzin, E. M., and Burnham, L.: *J. A. M. A.* 116:825, 1941.
7. Potter, Edith L.: *Am. J. Dis. Child.* Vol. 68 (July) 1944.
8. Levine, P., and Waller, R. K., Jr.: *Hematology*, vol. 1 (March) 1946.
9. Potter, Edith L.: *Am. J. Dis. Child.* vol. 68 (July) 1944.

#### DISCUSSION OF PAPERS OF DR. C. PURCELL ROBERTS, DR. A. J. AYERS, AND DR. R. C. MCGAHEE

DR. M. T. HARRISON (Atlanta): These three papers bring us more to the forefront in citing the responsibility of our medical care to people in general. Determination of the Rh factor in blood typing, a little more recent than the development of the sedimentation test, anticipates hitherto unexplained reactions following blood transfusion. Its importance is self-evident.

However, I wish to stress especially the value of the sedimentation test as a screening test. Many times a person comes in with very obscure history, with negative findings generally but with a high sedimentation rate. This put us on guard to repeat this, other tests and examinations until we are satisfied as to the diagnosis. The test is relatively simple and, as Dr. Roberts says, the Westergren apparatus is very satisfactory. The apparatus is available and with it come full directions. The test is not difficult. You can do it or anyone in your office can be trained and it will aid you in many diagnoses. A high sedimentation rate, in general, is indicative of the breaking down of tissue.

DR. JOHN W. SIMMONS (Brunswick): As a slightly older doctor, I envy the doctors who are coming along now, and who are the heirs to all the recent marvelous discoveries in medicine that have preceded their graduation. What they know now makes some of us elderly doctors mighty sad when we consider cases of babies we attended who died soon after birth with cases we erroneously called icterus neonatorum, and now realize that we were possibly dealing with a case of erythroblastosis fetalis.

The newer methods of study of Rh factors in blood typing also confirm a nebulous theory and observation I made years ago, when I was examining a dear friend for permanent disability due to pernicious anemia, and who was receiving blood transfusions in a neighboring city. The same donor, his wife told me, had been used on two previous transfusions, with a violent reaction occurring after the second transfusion. The day before he was to leave for another transfusion, I told him: "I dare not dictate to your doctor, but will you kindly insist on his using a different donor next time?" It occurred to me, and I so stated, that some subtle changes were taking place in his blood chemistry or constituents, his agglutinins or agglutinogens, antigens, or what not. I was too ignorant to do anything but guess. We knew nothing of Rh factors, but the dear fellow had another transfusion from the same donor—and promptly died—of course, of pernicious anemia.

Another interesting experience related to the same causes—the complicating Rh factor—might be detailed. One of my doctor friends used one of his patients as a donor for one of his nurses, the transfusion being

given following a major operation in another state. The nurse had a violent reaction, shock, cyanosis, etc., and barely recovered. Later the quondam donor became a recipient in Brunswick Hospital, following a surgical procedure. Pooled plasma was used in her case, and she, in turn, had a violent reaction after receiving less than 100 cc. We have now decided, since her death a few days later, that she must have been Rh negative. This has been confirmed by me at this meeting by questioning many doctors returned from service regarding their experiences with pooled plasma. Some of them state that there were definitely reactions due possibly to the pooled plasma being given to Rh negative recipients. It occurs to me that we are just beginning to find the basic cause of many of our sad experiences in both direct and indirect or citrated blood transfusions years ago. I simply mention these things to call attention to the fact of how ignorant we were years ago.

Now, just a brief further observation of how well read and intelligent modern youth is becoming I might relate. Recently I had the pleasure of lecturing to a class of adolescent girls on "Human Biology". We held our session out on the school campus under the oaks. The teacher, in her modern way, allowed the girls to question me. One of the first questions fired at me was: "Doctor, will I or my baby die if I am Rh negative?" The next, "What effect does this Rh factor have?" I told them what little I knew, and later delivered to them some literature I had saved. I pray to Almighty God that when these fine girls become wives, and look hopefully to motherhood, the short talk I gave them and the literature I handed them may erase from their young minds the fear, the dread and the horror that some of them had when they tried to understand the complications and reactions of such subtle things as we have been discussing in the last two papers.

DR. C. PURCELL ROBERTS (Atlanta): I wish to thank Dr. Harrison for bringing out this important point about the sedimentation rate. If it is used as a routine procedure on all office and hospital cases, it is possible to do such screening, and if the rate is normal and homeostatic, it is helpful to have that in the record for comparison with later determinations.

In closing, I would like to mention one factor about blood sedimentation which is often overlooked, and that is the lag phase in the production of plasma discomposure (or in the appearance in the plasma of quickening fibrinogen). Sometimes you hear that the blood sedimentation test is run on the first day of an acute illness and the result is a low normal, therefore the impression was gained that in this disease the blood sedimentation was not affected. There is a lag of about two days in the production of the greatest disturbance in the plasma and unless serial determinations are run in the post-onset, so to speak, disturbance in the plasma, and therefore altered sedimentation rate may not be discovered. It is advisable to have a serial curve of sedimentation rates throughout the course of an illness, appended to the other serial clinical data, and in this way the greatest aid may be had from the test.

#### CENTENNIAL OF SURGICAL ANESTHESIA

A recent publication of interest is the *Centennial of Surgical Anesthesia*, an annotated catalog of books and pamphlets bearing on the early history of surgical anesthesia, compiled by John F. Fulton, M.D., and Madeline E. Etanton, A.B., of the Yale Medical Library. Attention is called to the preface and to the introductory paragraphs to each section which discuss material pertaining to one of the most lively and acrimonious quarrels in medical history. This publication, put together in preparation for a Centennial Exhibit on the early history of anesthesia at the Yale School of Medicine, October 1946, should be of great value to those working in this field.



## A DIGRESSION ON SEXUAL HAIR

ROBERT B. GREENBLATT, M.D.

*Augusta*

It is an oversimplification to say that the female has one pattern and the male another for bodily hair growth.\* However, it is far from simple to explain the hormonal mechanism that permits the differentiation into such distinct patterns. In the past few years the opportunity to study the phenomena of normal and abnormal hair growth in many women with various endocrinopathies has yielded some pertinent information. These observations allow of some opinions as to the humoral factors which control secondary or sexual hair growth. Three case studies of patients with different and distinct syndromes; viz. precocious puberty, Cushing's syndrome and sexual infantilism were selected to help throw some light on the subject.

*Precocious Puberty*

Case 1 is that of a nine year old white female with well developed secondary sex characteristics (Fig. 1). From her history it was learned that at the age of seven years the appearance of pubic hair and breast development were first noted. At the age of eight years catamenia set in and since then she has had menstrual periods of 4 to 6 days' duration at 28 to 30 day intervals. On study of this patient it was found that the height was greater than the span (54.5:50.5 inches), pubic hair was well developed but there was no axillary hair, bone age was that of a nine year old girl. X-ray



Figure 1  
Precocious puberty.

studies revealed a normal sella turcica. Suction curettage performed about the 21st day of the cycle revealed cystic glandular hyperplasia. The vaginal smears showed a full estrous effect and the pH of the vaginal secretions was 4. The glucose tolerance test was normal and insulin tolerance test was suggestive of some insulin resistance. Urinary estrogen was assayed at 60 m.u. per liter in a 24 hour specimen and urinary pregnandiol at 4.9 mg. Her blood pressure reading was 118/80 mm. Hg and her weight was 86 lbs. The basal metabolic rate was within the range of normal. Pelvic examination under anesthesia failed to reveal any enlargement of the ovaries or any pelvic

## \*Sexual Hair:

(a) Ambosexual—axillary or pubic hair.

(b) Truly sexual—beard, chest hair or abdominal hair.

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The estrone sulfate (Premarin) used in this study was supplied through the courtesy of Dr. J. Murray Scott of Ayerst, McKenna and Harrison, Inc.

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masses. K.U.B. x-rays showed apparently normal size, shape and position of the kidneys.

*Comment:* It appears from the urinary estrogen assays, the cystic glandular hyperplasia of the endometrium, the maturation of the vaginal epithelium and the excellent breast development that estrogens are being produced in goodly quantity and this most likely by the ovaries. It may be surmised then that consequent to ovarian activity and estrogen production, pubic hair growth results. That the growth of secondary sexual hair is directly under estrogen control, is only in a measure true. Estrogens *per se*, it will be shown, are not primarily responsible for such hair growth, but only secondarily so.

### *Cushing's Disease*

Case 2 is that of a 29 year old woman with hypertensive cardiovascular-renal disease who was admitted to the University Hospital in June 1942. She showed signs and symptoms of cardiac decompensation; the heart was enlarged, her blood pressure was 190/130 mm. Hg. Excessive growth of hair on face, chest and thighs was present. She had a moon face, plethoric complexion and a pendulous obese abdomen (Fig. 2) with thin skin and some striae of the abdomen. Significant laboratory findings were a persistent erythrocytosis averaging five to six million red blood cells and a four plus albumin in the urine. X-ray of sella turcica was negative. A tumor of the adrenal cortex was suspected. After bed rest and improvement in her heart condition an exploratory operation was undertaken. The left adrenal was found to be normal, but before the right adrenal could be explored the patient went into shock. On recovery from her operation, the surgical department asked for an endocrinologic survey.

It was found that the patient was depressed mentally and was non-cooperative.

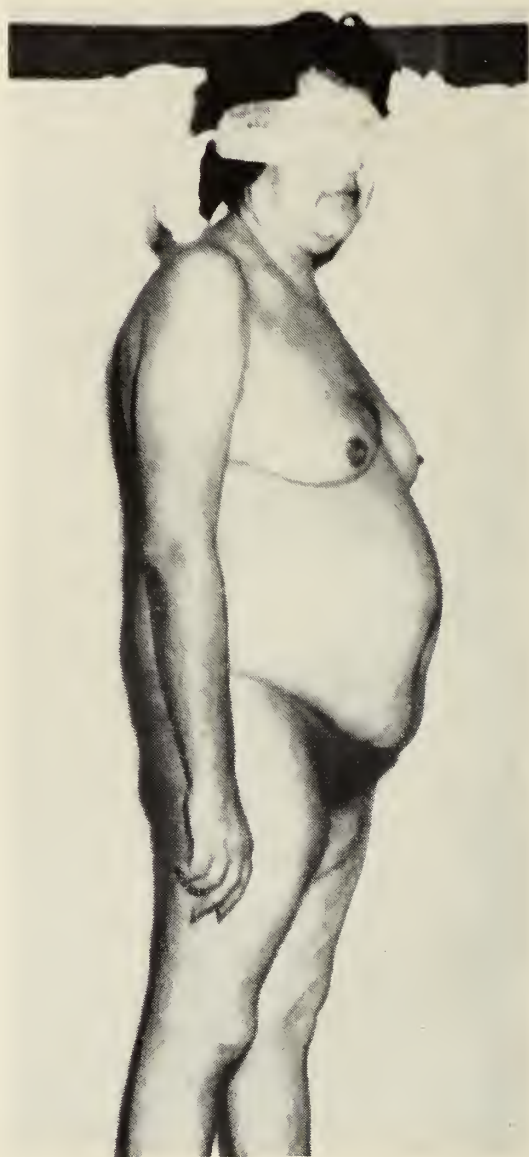


Figure 2  
Cushing's disease. Note the moon face, pendulous abdomen, buffalo type of obesity (sparing the extremities).

She had an elevated basal metabolic rate (plus 20). On assay of the blood, a positive prolan test was obtained. The 17-ketosteroid determination on a 24 hour specimen of urine was normal. Blood studies revealed a polycythemia, a diabetic glucose tolerance curve (Chart 1) and insulin resistance with the insulin tolerance test (Chart 2). Roentgen study of the spine revealed some arthritic changes and a mild degree of osteoporosis. Gynecologic examination proved negative; there was no enlargement of the clitoris. She was amenorrheic. The

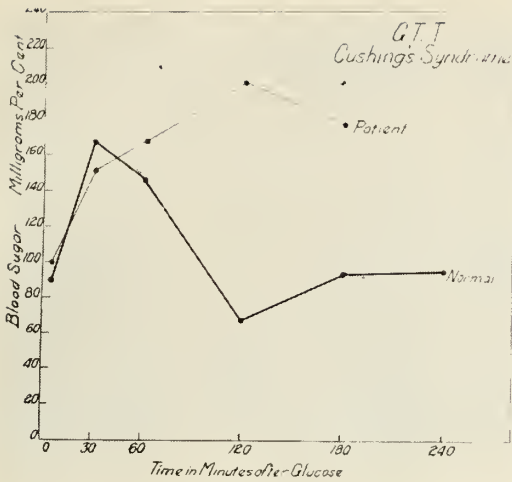


Chart 1. Glucose tolerance test. Note "diabetic" curve. Urine was always negative for sugar.

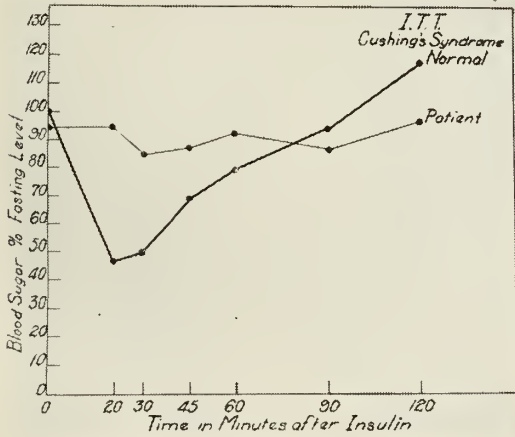


Chart 2. Insulin tolerance test. Note "insulin resistant" curve.

vaginal smear revealed a two plus reaction. The endometrium on suction curettage was atrophic. From her history it was learned that the onset of symptoms was gradual, commencing five years previously, with progressive gain in weight, amenorrhea and hirsutism. In time, she began to shave every few days, lost all sexual desire and became markedly obese. In recent months she began to lose weight (loss of 40 lbs.). She felt weak and had little muscular strength. Since Albright et al had demonstrated that a nitrogen imbalance occurred in patients with Cushing's syndrome and that a striking retention of nitrogen could be induced by testosterone, it was decided to try such therapy. Accordingly, two pellets of testos-



Figure 3  
Cushing's disease. Note growth of beard (patient did not shave for one week) and improvement in bodily build.

terone propionate, 100 mg. each, were implanted subfascially. Within two weeks a remarkable change for the better occurred, which was followed by remission of the syndrome. It is felt that this patient had a Cushing's syndrome because of the remarkable response to therapy with androgens. She felt stronger, her output of urinary albumin decreased, her blood pressure improved slightly, the skin became thicker, she became somewhat euphoric and definitely cooperative. Some months later she was persuaded not to shave for a week in order to get a photograph of the beard as well as to record the improvement in bodily build (Fig. 3). The patient visited the clinic several times within the next six months. The improvement in her well-being and strength was maintained. Sight of her was then lost. It was learned afterwards that about 18 months later there was a reactivation of the disease which progressed to fatality after a period of congestive heart failure. In spite of the typical syndrome, the elevated BMR,



Figures 4 and 6.  
Sexual infantilism, before and after therapy (estrogens and progestins).

the positive blood prolactin test and the final outcome, the diagnosis, in the absence of an autopsy, must remain in so well developed a case, one of presumptive pituitary basophilism (Cushing's disease).

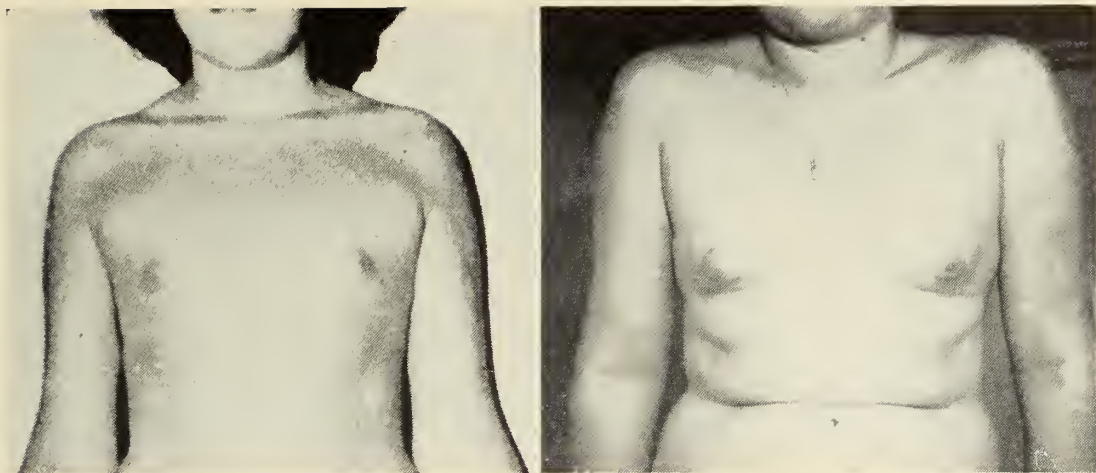
*Comment:* It would appear from the study of this patient that growth of hair, both sexual and ambosexual, is directly the result of excessive secretion of certain adrenal cortical factors. The atrophic vaginal smears and the amenorrhea are evidence of low estrogenic function. It may be postulated that the androgenic factor of the adrenal cortex is responsible for the excessive growth of hair in patients with pituitary basophilism (Cushing's disease).

#### *Sexual Infantilism*

Case 3 is that of a bright, young girl,

aged 23, who was referred to the author by Dr. M. C. Wilson of Miami, Florida, for study because of sexual infantilism and decreased stature. Physical examination revealed a short, pudgy, healthy looking girl without pubic or axillary hair and with undeveloped breasts, vagina and uterus. The skin of the extremities was scaly and suggestive of ichthyosis. Her height was about 60 inches and the span 57 inches. A castrate smear and pH of 8 were obtained on study of the vaginal secretions. Assay of the blood gave a negative test for prolactin and 17-ketosteroid determination yielded 2.0 mg. for a 24 hour specimen. Blood calcium and phosphorus values appeared disturbed. The disturbed ratio of 15 to 3.8, however, was gradually restored to normal and was





Figures 5 and 7  
Sexual infantilism, before and after therapy (estrogens and progestins).

10 to 3.8 after the second month of therapy. B.M.R., blood pressure, glucose tolerance test and insulin tolerance test were within normal limits. X-ray studies of the right elbow and hand and the lumbar and thoracic spine were made by Dr. Palmer Holmes, who reported: "Anteroposterior and lateral views of the right hand show marked delay in the fusion of the epiphyses of the bones of the wrist and hand. Views of the right elbow show delay of union of the epiphysis of the inner condyle. The other epiphyses have united. The lateral view of the skull shows no erosion around the epiphyses and no intracranial calcification. Suture lines of the skull appear within normal limits. Lateral film of the thoracic and lumbar spine show development defects of the bodies of the epiphyses."

The past history revealed that at the age of eleven she had a menstrual show of blood which lasted a few minutes; she never menstruated again, although she often had attacks of low pelvic (uterine) cramps at monthly intervals. During the past ten years she has had several courses of oral estrogens, and each year during her seventeenth, eighteenth and nineteenth years, had received a course of 15 to 20 injections of Antuitrin-S. These were without apparent benefit. At the age of 13, the patient's height

was 52 inches, and during the following ten years she grew eight and one-eighth inches. In her family history it was learned that her father was six feet tall; her mother five feet, two inches. A diagnosis was made of sexual infantilism due to selective pituitary deficiency (Figures 4 and 6).

The patient has been under treatment for almost two years and menstrual bleeding has been induced regularly from the second month of treatment onwards. At first this was accomplished by cyclic administration of estrogens and progesterone. Bleeding ensued a few days after the withdrawal of therapy in every instance with the exception of the first trial. The parenteral administration, in divided doses, of about 100,000 to 150,000 I.U. of estrone or its equivalent followed by 40 to 50 mg. of progesterone, proved adequate. Normal smears and pH reactions of the vaginal secretions were obtained after the fifth day of estrogen therapy (total dosage of 50,000 I.U. of estrone). Later, to reduce the cost of therapy, oral estrogens (one tablet daily of 1.25 mg. of estrone sulfate) followed by a course of 30 mg. of anhydrohydroxyprogesterone per day for five days proved equally successful. To reduce cost of therapy further, stilbestrol 0.25 mg. per day was substituted for 20 days each month and withdrawal bleeding



Figure 8  
Sexual infantilism. Note growth of pubic hair following androgen therapy (there was no hair growth following estrogen and progestin therapy).

followed just as readily. Cyclic interruptions with occasional courses of oral progestins were interspersed every few months in order to simulate physiologic conditions as much as possible. Thyroid therapy, one-half grain per day, was instituted for varying periods of time. Estrogenic cream was applied daily to the breasts for prolonged periods of time.

During the period of observation there occurred improvement in bodily contour and genital development. The patient's outlook and interest in life matured. Growth has continued at its own rate. From May 12, 1943 to September 17, 1944 she grew one and one half inches in height. Satisfied with the increase in the size of her breasts, she has discarded her "false fronts." She is now thinking seriously of marriage, although it has been pointed out to her that the possibilities of motherhood are most remote (Figures 5 and 7).

In spite of the development of secondary

sex characteristics following estrogen-progesterone therapy, sexual hair failed to appear. In order to stimulate growth of sexual hair three short courses of testosterone propionate in 10 mg. doses totalling 60, 90 and 120 mg. respectively were tried at various periods of time. There soon followed a growth of fine pubic hair. Encouraged by this show of hair, two intensive courses of methyl testosterone were administered orally at monthly intervals in doses of 30 mg. per day for 21 days. Definite growth of pubic hair resulted (Fig. 8).

*Comment:* The administration of estrogens or estrogen and progestins was capable of inducing breast growth, vaginal maturation and uterine bleeding, but was not inducive in promoting secondary sexual hair. When androgens were administered, stimulation of pubic hair growth occurred.

#### *Discussion and Conclusions*

With the onset of puberty secondary sex characteristics appear as a result of the

awakening of the ovaries. With estrogen production the pituitary is stimulated to release luteinizing hormone and/or the adrenocorticotrophic hormone. Coincident to adrenal cortical stimulation the androgenic factor appears and secondary growth of sexual hair follows. That such is the probable sequence of events may be surmised from an analysis of the three revealing case reports. By contrasting cases 1 and 3 it may be inferred that estrogens alone are not responsible for growth of sexual hair. That the effect of estrogens on such hair growth can only be mediated through the pituitary (which in turn influences adrenal cortical activity) was amply demonstrated in case 3 by virtue of failure of estrogen therapy to prove effective in a patient with hypopituitarism. Case 1 was indeed associated with a high estrogenic titer; case 2 was low in estrogens. The latter patient, nevertheless, had excessive growth of ambosexual and sexual hair due no doubt to the adrenal cortical hyperplasia common to patients with Cushing's disease. Since in case 3 androgens were capable of inducing growth of pubic hair, it may be postulated that androgens or the androgenic factor of the adrenal cortex are requisites for growth of sexual hair.

#### DISCUSSION OF PAPER OF DR. ROBERT B. GREENBLATT

DR. H. D. ALLEN, JR. (Milledgeville): I'd like to congratulate Dr. Greenblatt in bringing this subject before us. I know very little about this problem from the approach that he has made to it. I have inadvertently been involved in a study of estruation in hardy annuals, carrying on for the last ten years the propagation of seed, and we are running into some leads that gave us an idea that in germinating seed of hardy annuals there are delaying conditions of germination that are somewhat analogous to the three groups just presented, and perhaps a fourth as suggested from the blood groups.

In seeing patients from a mental standpoint and particularly in the markedly schizophrenic reactions, which we call our old, chronic dementia praecoxes, we do get a wide variation in which the hair growths are very much increased or completely absent; that is, I had a patient to die a few years ago after she had been in my care over 20 years and was approaching 70 years of age, and she gave all the characteristics of not going through the usual stages of aging and she looked to be a person between 20 and 30 years of age and yet she died of a typical coronary thrombosis which we

associate with grey hairs, wrinkled skin and aging processes associated with an active life and the emotional drives back of it. She had none of these. She was of an entirely apathetic nature. She had accepted things just as they came and, so far as I knew, with about as few worries as anyone.

Recently a 17-year-old boy came to me for work. I recognized him as an extreme case of dwarfism. He had only the dental eruptions of an 11-year-old child. He weighed 82 pounds and he was about four feet, eight inches tall. In the course of giving him the Evan's growth hormone and keeping him on it only about three or four months, his first response, which may have been coincidental, was the eruption of his jaw teeth, which I believe are called the 12-year molars. I had a dentist, who was very much interested in this subject, check his teeth for me. He also began growing pubic hair.

This to me is a very interesting subject, and I could possibly philosophize on it better than give an observational discourse. I do feel though that these cases are very intriguing. They lead us into observations from which I feel in time will put our hormone therapy on a more rational basis than we now have. Androgens and estrogens should soon be subject to fairly accurate chemical assays, and if we find no imbalance there, by elimination we could determine our adrenalin and pituitary reaction types.

I want to thank Dr. Greenblatt for bringing this subject before us and the opportunity of discussing it.

## THE RECOGNITION AND MANAGEMENT OF EARLY PSYCHOSOMATIC DISORDERS

R. S. LEADINGHAM, M.D.

*Atlanta*

Weiss and English<sup>1</sup> state that, "Psychosomatic medicine is a new term, but it describes an approach to medicine as old as the art of healing, itself." More than a new term, however, it is defined in the fifteenth edition of Osler's "Principles and Practice of Medicine"<sup>2</sup> as "that part of medicine which is concerned with an appraisal of both the emotional and the physical mechanisms involved in the disease processes of the individual patient with particular emphasis on the influences that these two factors exert on each other and on the individual as a whole." It designates a principle applicable to most of the problems of internal medicine and one which, in the wider field of medical practice, implements with

<sup>1</sup>From the Department of Medicine, Emory University School of Medicine.

<sup>2</sup>Read before the Medical Association of Georgia, Macon, May 9, 1946.



commonly accepted scientific methods and ethics our intuitive interest in psychopathology by raising the emotional components of disease from the realm of intangibles to the level of cause and effect mechanisms. Probably the first benefit which may be expected from its general application will be a better appreciation of the proved functional changes produced in the body by the prime factors of natural defense; viz., anxiety and fear, hostility and rage, which serve as vital a purpose in protecting an individual from injury as does the phenomenon of inflammation in combating the invasion of harmful irritants. The analogy of these two defense mechanisms may become more apparent as we observe their acuteness, chronicity, and the antigenic properties of specific irritants.

Not much attention has been given to the incipency of psychosomatic disturbances, although we have become increasingly aware of their importance in the etiology of many serious disorders. We have been extremely interested in peptic ulcer, bronchial asthma, spastic states of the gastrointestinal tract, angiospastic hypertension, functional cardiopathies, urticaria and neurodermatitis, but have neglected the large number of patients with lesser autonomic nervous system disturbances which may develop into disabling mental and physical illnesses.

Recognition of early psychosomatic processes implies recognition of the physical preparation of the body to fight or flee from danger. The dilated pupils, quickened pulse, deep respiration, and muscle tenseness are well known objective manifestations of this preparation as are the dry mouth and urge to empty the gastrointestinal and urinary tracts, subjective evidence of the cessation of functions not concerned with the body's immediate defense. Concurrent with these manifestations are the alterations in basal metabolism, blood pressure, glucose tolerance and other biochem-

ical changes noted by Bodansky<sup>3</sup>. A man with fear of having syphilis and going insane, during a period of fear and anxiety had a blood sugar level of 247 mg. per cent at two hours in a glucose tolerance curve and when his fear was allayed, 87 mg. per cent. Blood calcium varying in normal individuals from 0.2 mg. to 0.5 mg. in psychoneurotic and psychotic patients varied from 1.2 to 5.0 mg. Cholesterol, which in normals had a variation from 110 to 195 mg. per 100 cc. of blood, in neuropsychiatric disorders was found to vary from 30 to 350 mg. Similar variabilities in basal metabolism, blood pressure, pulse rate and rhythm, etc., characterize the influence of psychogenic factors in emotional upheavals. Thus the body conforms to the fundamental physical law of self-preservation and to the equally dominant social law of self-esteem. Conditioning of the response may depend upon the severity of the trauma, the frequency of impact, and the resistance of the individual. Persistence of a syndrome of psychic and somatic phenomena, or its frequent recurrence, may mark the onset of psychosomatic disease.

Not much can be gained for the patient's benefit, however, or for determining the relative importance of emotional factors, by recognition of the physical symptoms without a knowledge of their exciting causes. Inasmuch as patients usually do not associate emotional distress with presenting symptoms, a comprehensive history which includes emotional and physical antecedents is essential to establish their relationship.

#### CASE REPORT

A 26-year-old woman complained of extreme nervousness, sleeplessness, and paroxysmal tachycardia of two months duration following an upper respiratory infection and residual inflammation of her tonsils, which she was told should be removed. The attacks of tachycardia occurred at any time during the day and occasionally awakened her at night. She was treated by rest in bed and sedatives and later was sent to Florida with her husband for two weeks of rest. During her vacation she had fewer attacks but, after returning home, they recurred more frequently, and sedatives became less effective, even in larger doses. The attacks were char-

acterized by sudden onset of rapid heart action, too fast to count accurately, and acute precordial distress which lasted fifteen to thirty minutes, gradually subsiding and leaving her exhausted. Except for large tonsils and pulse rate of 100, physical and laboratory examinations were negative.

She stated that she was a normal child with no preference for either parent. She was, however, denied many social activities, such as dancing, shows, etc., by a puritanical father, but was aided by her mother to slip out occasionally to attend them. When she was twelve years of age, her sister, with whom she slept, had a tonsillectomy followed one night by a hemorrhage which covered the bed. After removal to a hospital, the sister died. At fourteen her younger brother was taken ill with convulsions and she had to hold him in bed while her mother tried in vain to get a doctor before his death. At sixteen, she ran away from home and married a boy who could not support her. She lived with him four years and had one child before she was divorced. They lived by themselves but were dependent upon her father for their support. A year later she remarried and had two more children, one of whom was born while her husband was overseas. When her husband went into the Navy she went with him to "boot camp" and lived in a hotel. There a friend became ill with meningitis and she became involved in cutting the red tape necessary to get her into a hospital, where she died. After her husband went overseas she became more anxious about her children's health and was considerably upset when her son's tonsils were removed and he had a slight hemorrhage. Last fall, just before her husband returned, the entire family had influenza and her daughter became delirious with high fever. During and following her own illness, if one of her children was restless at night she awakened with a feeling of impending disaster and, after she was told that her own tonsils should be removed, she became apprehensive about the operation, was uncomfortable in crowds, had periods of headache, dizziness, parasthesias of hands and feet, and began to have trouble with her heart, which soon became her chief concern. Occasionally at night she dreamed of death or accidents. She missed a menstrual period and was told by her physician she might be pregnant. Fear of pregnancy persisted and interfered with satisfactory marital relationships, although she later menstruated.

When she began her history, she was greatly agitated but became quieter before she finished, and seemed relieved when it was suggested that the tonsillectomy might be postponed. She slept better that night with a sedative she had been accustomed to taking, and had one attack of tachycardia which was relieved by pressure over the carotid sinus. During her five-day stay in Atlanta she and her husband went out frequently to dinner and shows, and she remarked that she was getting over her fear of crowds. Her pulse rate was 85. She continued to be apprehensive about her children but during the next two weeks had only two attacks of tachycardia which were promptly relieved by carotid sinus pressure. Six weeks later she stated that she had nursed her daughter through an illness with diphtheria without mishap and had no recurrence of tachycardia. She also had not been disturbed by fears which previously would have sent her to the doctor. When asked to what she attributed her improvement, she replied that it was her understanding of the relationship between her anxiety that had been fostered by her previous experiences and the presenting symptoms. This enabled her to improve her marital relationships and to be less apprehensive about the welfare of herself and children.

Obviously the successful management of psychomatic illness depends upon the extent to which such insight can be gained. Therapy necessarily should be directed to the alleviation of discomforts but, I believe,

should not include medicines, the taking of which the patient might substitute for purposeful thinking. In cases with malnutrition, a forced diet may place a painful burden upon a poorly functioning gastrointestinal tract. Bed rest and vacations may contribute to rationalization on the part of the patient and physician.

Primarily, it seems to me, attention should be directed, first, to determining the psychogenic factors in a disease syndrome; second to alleviating the distress of presenting symptoms; and third, to providing the patients with an adequate understanding of the emotional phenomena, in order that they may not have added fears of disease, become chronic invalids, or fall victims to resulting illnesses with gross tissue disease.

#### REFERENCES

1. Weiss, Edward, and English, O. Spurgeon: *Psychosomatic Medicine*, Philadelphia, W. B. Saunders Company, 1943.
2. Christian, Henry A.: *Osler's Principles and Practice of Medicine*, ed. 15, New York, D. Appleton-Century Company, 1944.
3. Bodansky, Meyer, and Bodansky, Oscar: *Biochemistry of Disease*, New York, The MacMillan Company, 1945.

#### DISCUSSION OF PAPER OF DR. R. S. LEADINGHAM

DR. THOMAS ROSS (Macon): I feel very inadequate in discussing such a paper as Dr. Leadingham's, but I should like to make one point in discussion, and that is a plea on the part of the physician himself in the proper handling of patients as they come to him, particularly as regards the search for organic disease in this type of patient. A thorough search, particularly with respect to the history, the social background of the patient, followed by a very careful physical examination, with all our laboratory work, of necessity has to be done in these individuals in an effort to rule out any organic disease. However, once that is done and we make up our minds that no organic disease is found, we should be strict in our conversations with our patients. There should be no hedging in opinion. We should be emphatic that the patient has no disease and then go after the psychosomatic background responsible for the patient's illness. This is particularly illustrated in cardiovascular disease.

In the army we saw thousands of patients with cardiovascular symptoms, most of them totally unfounded, and not due to organic disease, but which began in childhood from the erroneous diagnosis of heart disease on the basis of a functional systolic murmur. Many of these boys were put in bed by their physicians and kept in bed on digitalis over a year as children. They are going to have cardiac fixations the rest of their lives, and we are responsible for it. Cardiac pain, shortness of breath, palpitation and all those things make up the syndrome of neurocirculatory asthenia and, in many instances, the physician himself is responsible for it. The same thing applies to abdominal pain.

A recent series was reported in the April, 1946, issue of the American Medical Association Journal in a study of 150 patients in whom 209 abdominal operations had been performed without finding any disease to account for the symptoms.

I have been here only a month. As happened when



I first began to practice, I am now seeing, as one of a chain, all of the people with psychosomatic symptoms who have made the rounds of all the doctors in Macon; and since a new one has come to town they are trying him out, too. I am also impressed with how well a good many patients have gotten along without any medical care during the past four years, patients that I had before that and every effort was made to find something wrong with them. Some of them I was quite worried about, but they have had no medication and have seen no doctors in four years and are better off than when I was treating them.

I should like to read a discussion—this is not quite according to Hoyle—but it brings out some points I wanted to make, by Dr. R. P. Mackay, of Chicago, in discussing a paper of Dr. A. E. Bennett, of Omaha, a psychiatrist.

"There can be no doubt that the misdiagnosis and mismanagement of the so-called functionally ill patient is the medical scandal of the day. It is literally true that most of our patients are improperly handled, suffer needless prolongation of their illnesses and often fall into the hands of ignorant quacks. I agree that medical education is partly to blame. Other reasons, however, are inescapable. The most important is the laziness of the physician who neglects the laborious but indispensable taking of the personal and social history. This must be done by the doctor himself; it dare not be assigned to a nurse or junior assistant. Furthermore, the physician must talk less and listen more and must watch for the patient's subtle reactions as he is quizzed. He must elicit the outlines of his life story, his work, his play, his ambitions and his failures, his sexual and emotional appetites and his dissatisfactions. These are quite as important as the chronological narrative of his symptoms. Next to laziness is the physician's lack of imagination. Blinded by a worship of chemical and technical procedures (which inordinately increase the cost of medical care) he forgets that patients are people who in infinitely complex ways become entangled in the emotional snarls of life. It is not enough to know that a woman has palpitation; it is necessary to discover that, for example, she has it during her husband's absence and to imagine what disturbing desires she may have, from which his presence protects her. Human sympathy is the good doctor's indispensable attribute. He can never win confidence if he is impatient or disinterested or in a hurry to go golfing, or hostile because the symptoms are ridiculous and unreasonable. There is nothing unreasonable in medicine. Tolerance and sympathy establish that rapport which reveals the diagnosis and actually works the cure. These things—industry, imagination and sympathy—with a hunger for that truth which cannot be seen in the test tube or x-ray film must be added to a sound education in psychology. Thus equipped, the practitioner becomes a wise physician who understands human beings and who, furthermore, is a human being himself."

DR. JAMES N. BRAWNER, JR. (Smyrna): Dr. Leadingham is to be commended for emphasizing in a very clear and concise manner the nature and importance of psychosomatic disturbances. We know that such symptoms might be referable to any of the various systems and naturally will be of interest to physicians of all specialties as well as to the general practitioner and to the psychiatrist. If we are to practice modern medicine I think every physician should be concerned with the possibility of emotional factors in consideration of causation of symptoms. We, I think, are too prone to treat symptoms and forget the patient. Psychosomatic medicine is teaching us to stress the fact that we should remember that we are dealing with the human being who has very definite and very strong emotional factors. Too often we completely ignore this particular phase of the problem.

I think we should certainly stress one fact which Dr. Leadingham mentioned in his paper and that is the use of certain medicines upon which a patient may

come to depend. In a group of individuals who are disturbed emotionally, we find many who are potential drug addicts and it is useless to go further to say that one or two doses of opiates or other habit forming drugs when attempting to relieve pain, may well result in a much more serious problem than we had in the beginning. However, we should remember that psychoneurotic pain is real pain. It isn't imaginary. We should never tell a patient that this pain is imaginary. We should consider it a real discomfort and seek the cause. There is a definite cause, be it physical or emotional.

I think the secret of success in attempting to uncover the real causative factors when faced with a psychosomatic problem is the physician's skill in getting the patient to talk about himself rather than talk about his symptoms. Of course, this naturally requires confidence of the patient in the physician. It requires sincere, honest, frank discussion with the patient of his problem by the physician. It requires a great deal of time. In the past years the time element, I am sure, has had a great deal to do with our inability to discover the real cause of symptoms which are primarily psychosomatic in nature.

I appreciate this opportunity to discuss Dr. Leadingham's paper. I think it is very, very worthwhile.

DR. EDGAR H. GREENE (Atlanta): I want to thank Dr. Leadingham for bringing this subject before us today. We had an excellent discussion along this line last night and I rise, not as one qualified to discuss this paper, but simply to say that I believe that we are now on the right track when we bring subjects such as this before the Medical Association of Georgia.

Dr. Leadingham has brought out in his paper and it is re-emphasized by Dr. Brawner, who has just preceded me, the value of letting the patient talk. I know that at the present time we have all been rushed with practice and I believe there might be a tendency on the part of most of us to neglect an accurate history on the new patient. They come in with a definite complaint or symptom simulating a certain disorder. It may have no bearing on the real motive behind the visit. Something is hidden. They are reluctant to unburden their minds of the very thing that prompted the call on the doctor. They have some obscure symptom or trumped up complaint, and if you give them medicine and treat them for that complaint, you probably will get nowhere in giving the patient relief.

An example might give you my idea of what I mean by that. A young girl came to me recently who had married some six or eight months previously. She was very attractive and had a handsome husband. They were both young; she was, I think, 18 and he about 22. Now this girl came in complaining of a leukorrhea. I examined her and found nothing of any consequence. She had a slight leukorrhea; no evidence of venereal or trichomonas infection. I found nothing of any particular consequence. I had her come back and, following a second interview, found the trouble with the girl was that her marriage was not panning out the way she had expected. She had normal marital relations with her husband for a few months. It appeared, however, that he had a violent temper and it wasn't long after they had been married before he was directing rather disagreeable language toward his young wife, which eventually turned into some physical disturbance. Actually, he beat the girl, so she came complaining of a gynecologic condition that had nothing in the world to do with her trouble. Psychosomatic disturbance may be the identifying term for her distress. She had lost all sexual desire. Previously she had perfectly normal and satisfactory coitus. Her husband had mistreated her and within a year's time the marriage was on the verge of going on the rocks. Our discussion brought out the fact that if something couldn't be done for her by the coming July she was going to enter divorce proceedings.

DR. CLEVELAND THOMPSON (Milledgeville): I was



born into medicine many years before this idea of psychosomatic medicine came into vogue, but actually the mechanism and the etiology of this difficulty are very elementary. Here is a pitcher of water and a glass on the table. Did it ever occur to you why the water and the glass were put there? Not because they thought any speaker was going to die of thirst before he could satisfy himself and get ready to quit, but when he gets up here before an audience he is afraid he will forget his speech or afraid it won't go over as he would like for it to, and his mouth gets so dry he can't talk and he needs some water to prime it so he can go on talking. Not alone does his mouth get dry, but his whole intestinal tract—his stomach and everything—is just as dry as his mouth, and therein lies nervous indigestion.

Leslie, my grandson, was six years old and it was time for him to be in school. At breakfast the morning he was to begin his school career, he wasn't hungry. He couldn't eat any breakfast. His mother asked if he were not hungry, and he said, "No, mamma, I am not hungry. I am not scared," he said, "but my throat hurts." I have a scared feeling now. Therein lies the etiology of psychosomatic medicine.

DR. R. S. LEADINGHAM (Atlanta): I should like to re-emphasize the fact that emotional disturbances normally cause chemical and metabolic changes in the body which may be manifested objectively and subjectively by physical symptoms.

The emotional and anatomical aspects of a composite symptom-complex deserve equal consideration in clinical analysis. Many of the pains and discomforts presented may be due to the individual's preparation to take care of something which has aroused his hostility or of something he fears. This fear or hostility may be more than is usually exhibited by the average individual because of his sensitizing previous experiences or training.

## MEDICAL EDUCATION AND MEDICAL CARE IN GEORGIA — PAST, PRESENT, PROPOSED.

G. LOMBARD KELLY, M.D.

*Augusta*

Medical care in Georgia during the first one hundred years was in the hands of physicians who were trained principally by the preceptor method. Outstanding among the early eminent physicians were Patrick Graham, Noble Wimberly Jones, John Houston and Lyman Hall.

One of the principal concerns of the new colony was the acquisition of drugs, many of which were destined for shipment to England. Robert Millar was appointed court physician, and some of his importations into Georgia are worthy of notice. At one time he sent Egyptian kali or potash seed,

cotton seed, white mulberry plants, Burgundy vines and olive trees from Venice, Lucerne seed and tellicherry bark. He also sent over caper plants and madder root.

An account of Millar's journeys in the search of various botanicals and of his efforts to break the Spanish monopoly over certain drugs makes interesting reading. The early history of the colony is filled with accounts of the use of various vegetable simples, and in addition to these drug treatments by blood letting and by various types of counterirritants were common. Immediately before the Revolution, the exigencies of fate prevented Dr. Jones and Dr. Houston from being immortalized as signers of the declaration. This honor fell to another physician, Dr. Lyman Hall, who had migrated to Georgia from Connecticut with a group of Puritans. Dr. Hall was outlawed by the king and his property confiscated. He returned to active practice in Savannah in 1782. He later became governor of the State and judge of the Court of Chatham. Jones and Houston had stormy careers as Georgia patriots, and many interesting accounts of their activities on behalf of the colonies are recounted in the histories about this period.

During this century medical care in Georgia was similar to that in the remaining colonies, and in England. The era of modern medicine had not yet begun and few therapeutic methods were specific. Because the method of inoculation for smallpox had not yet come into practice, the only prevention against this disease was by means of quarantine. According to an article by Joseph Krafka, Jr., entitled, "Medicine in Colonial Georgia", "Against the medical background of the time, Georgia medicine was probably practiced with the same degree of intelligence as in any of the other colonies . . ." A review of the literature of the time shows that the whole category of fevers was an endless mix-up, with no

From the University of Georgia School of Medicine, Augusta.

Read before the Medical Association of Georgia, Macon, May 9, 1946.

knowledge of the etiology on which a rational treatment could be based.

The first evidence we have of an effort to regulate the practice of medicine was a complaint that "Mr. Watkins practices physick in Savannah." According to Krafka, no attempt to regulate licensure was made in America until New York passed such an act in 1760. Such legislation was not passed in Georgia until 1829, under the instigation of the Georgia Medical Society, organized in 1804. Even then it was only the influence of a group of young men whose enthusiasm for the establishment of a state school of medicine and Southern medical journal, both in Augusta, carried conviction against quackery, not only at home, but in the other states, and eventually led to the establishment of the American Medical Association.

Toward the end of the first century of Georgia history, the Georgia Medical Society was founded in Savannah in 1804 and the Augusta Medical Society was founded in 1822. Toward the very end of this one hundred year period we have the beginning of formal medical education in Georgia.

The Medical Society of Augusta joined with Milton Antony in 1828 in projecting Georgia's first chartered medical school. Seven pupils matriculated when instruction started, 1829. In addition to Antony, himself, eminent physicians connected with the school in its early years were Dr. Louis Alexander Dugas, Dr. Henry Fraser Campbell, Dr. Joseph Adams Eve, Dr. Lewis D. Ford, Dr. I. P. Garvin, Dr. Alexander Means (who at one time was also associated with the Atlanta Medical College) and the very eminent Paul Fitzsimmons Eve, who taught for a while at Vanderbilt Medical School when it was the University of Nashville Medical Department. Vanderbilt now lays claim to Paul Fitzsimmons Eve, but it is noteworthy that the American Polish Medi-

cal Society erected its monument to this eminent physician on Greene Street in Augusta, Georgia. Some idea of the enthusiasm of these early physicians can be gleaned from the address by Dr. Paul Fitzsimmons Eve to the classes on opening the course of lectures in the new medical school building in 1837, when he said of this magnificent structure, "We point you to this edifice with its classic exterior and ample accommodation within, alike an ornament to our city and State, and a monument to their munificence, acknowledged by all who have examined it, to be the most appropriate and convenient for medical purposes in the United States—to that Anatomical Museum, surpassed by none in our country, for the beauty and usefulness of its preparations,—to that Chemical Laboratory, rich in its apparatus for the performance of experiments, to illustrate the various subjects connected with science, to that Library, containing already many rare and valuable publications, both in the ancient and modern languages. When you reflect that all these are the fruit of but five years, what, we ask, may not be promised in the future career of this school of medicine?"

Further evidence of this wonderful spirit is evinced by the following paragraph from the "History of the Medical Department of the University of Georgia" by W. H. Goodrich:

"Early in the Spring of 1834 the faculty raised upon their own responsibility the sum of \$6,000 and Dr. L. A. Dugas was dispatched to Europe to purchase an anatomical museum, chemical apparatus, etc., for the use of the college. He returned in September with an excellent collection of apparatus and a nucleus for the foundation of a medical library."

The Legislature demonstrated its special interest in the new medical school by a gift of ten thousand dollars, 1833, and approxi-

mately twenty-five thousand dollars two years later. The City Council of Augusta added to the fund five thousand dollars and the faculty raised another ten thousand dollars. With a minimum of fifty thousand dollars, the college was able to complete in 1835 the erection of a splendid Grecian Doric building, containing all the necessary equipment, and had left over sufficient money to establish a fund for contingent expense.

"The splendid public support given the College leads one to the conclusion that the institution was essentially a state institution. Presumably the twenty-four trustees derived their authority from the Legislature. Milton Antony, the chief organizer of the College, was strongly supported by several colleagues and distinguished men of the State. He was the first professor of obstetrics and diseases of women and children. For over sixty years Dr. Joseph A. Eve, the co-founder, served the Georgia Medical College as professor of materia medica and therapeutics, 1829-39, and in the chair of obstetrics and diseases of women and children for fifty-three years after Dr. Antony's death in 1839.

"Deploring the defects in the conventional brief lecture term, Dr. Antony and his associates established a six-months term in 1830. For five years the faculty persisted in giving courses of six months, with but little encouragement. In 1835, convinced that they could not bring about a reform without concurrence of all medical schools, the professors addressed a circular to all medical colleges in the United States. They suggested the propriety of a convention to consider the problems of reform and adopt some plan of action to bring it about. It was further suggested that the University of Pennsylvania School of Medicine, the senior medical school, determine the number of delegates from each college. Dean

W. E. Horner of the University of Pennsylvania School of Medicine reported that his staff of professors thought it better for each school to adopt such regulations as might suit its particular views. In spite of some few favorable replies, Horner's response and the silence of others blanked the efforts of the Medical College of Georgia to elevate educational standards. In 1848, after the University of Pennsylvania had lengthened its medical term to five months and claimed priority in the reform movement, Joseph A. Eve, in an introductory lecture, reviewed the previous effort of his faculty to bring about a reform. 'Can they do this with justice?' he asked in impugning the veracity of the Philadelphia professors who claimed credit due the Georgia professors.

"The clinical opportunities offered by the Medical College of Georgia were extraordinary. Early in its history the school seemed to have had an infirmary in the school building, thus providing some bedside instruction. An undated circular, entitled *The Advantages Offered Students Attending the Medical College of Georgia*, spoke most highly of the institution's clinical facilities. The faculty, it was claimed, had sole control of 'two large Hospitals, the Polyclinic, the out-door Obstetrical service, and the City Dispensary,' from which sources material was utilized for daily instruction. Advanced students enjoyed the privileges of doing home deliveries while assigned to an 'out-door' obstetrics service. Instrument deliveries were performed in the amphitheatre. Every member of the advanced class was allowed two-weeks residence in the hospital, during which time he was excused from all lectures. There was no charge for the hospital ticket. These clinical opportunities were emphasized, possibly exaggerated, by the author of the pamphlet in an effort to contrast the College



favorably with other Southern medical schools.

"It is worthy of record that Georgia's first medical college filled a long-felt need in the State and also served the South at large. Its chief contributions were its sincere efforts, without encouragement, to elevate educational standards, and its most successful recognition and provision of practical instruction in the clinical subjects of medicine. Hundreds of Georgians and Southerners benefited by its existence."\*

Shortly after the founding of the Medical College of Georgia, Dr. Milton Antony and his colleagues published the *Southern Medical and Surgical Journal*. Volume one, number one, was published in 1836, and among the leading articles it contained were a paper entitled, "On Puerperal Convulsions" by Dr. Antony and a paper entitled, "On Rheumatism" by Dr. Louis Dugas.

One of the most interesting papers by Dr. Dugas is an article which includes four figures, illustrating his method of diagnosing dislocation of the shoulder joint. This is known as Dugas' sign and is described in all standard medical dictionaries of the present day.

Emory University School of Medicine was organized in 1854 as the Atlanta Medical College. Classes graduated from 1855 to 1862, when it suspended. It was reorganized in 1865. A class graduated in 1865 and each subsequent year except 1874. In 1898 it merged with the Southern Medical College (organized 1878), taking the name of Atlanta College of Physicians and Surgeons. In 1913 it merged with Atlanta School of Medicine (organized 1905), re-assuming the name of Atlanta Medical College. It became the Medical Department of Emory University in 1915 and assumed its present title in 1917.

Some of the eminent names connected

with Atlanta medicine from the time of the founding of the Atlanta Medical College subsequent to 1854 were: M. G. Slaughter, in anatomy; J. W. Jones, "Principles and Practice of Medicine"; Jess Boring, "Obstetrics and Diseases of Women and Children"; W. F. Westmoreland, "Principles and Practice of Surgery"; J. E. Dubose, "Physiology"; G. T. Wilburn, "Surgical and Pathological Anatomy"; J. G. Westmoreland, "Materia Medica and Therapeutics".

Many other names of eminent physicians connected with the early medical schools could be mentioned if time permitted. As time went on a considerable number of medical schools were started, but most of them were short-lived. The medical schools in Georgia, like most of those in the South, did not remain open after the first year of the War Between the States. The Medical College of Virginia in Richmond was the one school most stimulated by the conflict. From 1828 until the present time there have been twenty medical schools founded in this State. Some of them were started in such small towns as Griffin and Dalton. In the Medical Directory of the American Medical Association, the medical schools that have arisen in the several states are all numbered in accordance with their chronologic development. The two surviving schools in our State now are the University of Georgia School of Medicine, which is listed as Georgia 1, since it was the first to be founded; and Emory University School of Medicine, which is listed as Georgia 5, with consideration for the origins of the schools which fused to form it.

The cause of yellow fever was not known at this time and epidemics along the Eastern Seaboard struck not only Savannah, but reached as far inland as Augusta. It is interesting to note that Milton Antony, himself, died of yellow fever only eleven years after the founding of the Medical College of Georgia. His death occurred in 1839 and

\*William Frederick Norwood: Medical Education in the United States Before the Civil War.

he still lies buried on the grounds of the building which had been completed only four short years before. This building, still in an excellent state of preservation, was used until recently as a U.S.O. recreation center.

Only three years after the death of Milton Antony, a physician in the northern part of our State brought undying fame to our commonwealth. There on March 30, 1842, Crawford W. Long administered ether to James Venable in order to render him insensitive to the pain of the removal of a subcutaneous tumor. Crawford Long has been criticized for not having given wide publicity to his discovery. It is recorded that he made a visit to the medical profession in Augusta in order to interest the profession there in ether anesthesia. Unfortunately, at that time mesmerism was in great vogue, and Long was not given the encouragement and cooperation that he should have received. A simple account of this operation using ether need have taken only one page in the *Southern Medical and Surgical Journal*, but it would have laid for all time the invalid claims of Wells, Jackson and Morton as the discoverers of anesthesia.

During the succeeding years medical education and medical care in Georgia continued very much as in other sections of the country. The era of modern medicine as we know it had not yet really arrived. Great strides had been made, but the world was still waiting for Pasteur, Koch and Lister. Of course, many diseases had come under control and the public health was greatly improved. Vaccination had superseded inoculation as a means of preventing smallpox. Quinine was easily obtainable and was in universal use in the treatment of malaria. Mercury continued to be the main drug used in the fight against syphilis, while diphtheria, typhoid fever and tuberculosis

remained rampant. The great flood of new discoveries and new technics and the advent of chemotherapy, hormone therapy and the antibiotics were still around the corner.

Toward the end of the nineteenth century medical education, for the most part, went into a tailspin. Contrasted with the founding of Johns Hopkins Medical School in 1893, requiring a bachelor's degree for admission, were scores of so-called medical schools all over the country demanding not even a high school education for admission. These were diploma mills of the most flagrant type. Conditions became so deplorable that some effort toward control became inevitable. So little did most of the graduates know about medicine that all who were able went to some European center to round out their professional training. A very large percentage of the graduates never even attempted to practice medicine, but took up other fields of endeavor.

The outgrowth of all this was the founding of the Association of American Medical Colleges in 1876 and its refounding in 1891. Shortly after the turn of the century there was also founded the Council on Medical Education of the American Medical Association. This was in 1904. Finally, in desperation the Carnegie Institute for the Advancement of Teaching appropriated sufficient funds to send Dr. Abraham Flexner on a tour of inspection of all the medical schools in the United States and Canada. This pilgrimage was undertaken during the years of 1908 and 1909, and in 1910 Dr. Flexner's report was published under the following title: "Bulletin Number Four, Carnegie Foundation for the Advancement of Teaching."

A typical description of one of the so-called medical schools of that day is taken from Part Two of this report:

"CHATTANOOGA: Population, 34,773.

"(1) Chattanooga Medical College. Organized 1889. The medical department of the University of Chattanooga.

"Entrance requirement: Nominal.

"Attendance: 112.

"Teaching staff: 25, of whom 11 are professors, 14 of other grade.

"Resources available for maintenance: Fees, amounting to \$4290.

"Laboratory facilities: The school occupies a small building, externally attractive; the interior, dirty and disorderly, is almost bare, except for a fair chemical laboratory in good condition. The dissecting room contains two tables; the single room assigned to histology, pathology, and bacteriology contains a few old specimens, mostly unlabeled, and one oil-immersion microscope. The instructor explained that they 'study only non-pathogenic microbes; students do not handle the pathologic.' There is nothing further in the way of laboratory outfit; no museum, books, charts, models, etc.

"Clinical facilities: Amphitheater clinics are held at the Erlanger Hospital, which averages about 50 free patients. Students may not enter the wards. Perhaps ten obstetrical cases annually are obtainable, students being 'summoned'.—just how is not clear. The students see no post-mortems, no contagious diseases, do no blood or urine work, and do not always own their own text-books. They use quiz-compendes instead.

"There is no dispensary."

The publication of this bulletin caused such a furor that there was an immediate scramble of the medical schools all over the country to meet the demands for higher standards of entrance and accomplishment. In the vernacular, it was a case of "put up or shut up." It is interesting to note that within a comparatively short time nearly half of these schools had closed their doors. It is noteworthy that in 1905, four decades ago, with a much smaller population than today, there were as many medical students as there have been during the last few years.

The effects of Flexner's report in Georgia were similar to the effects elsewhere in the country. As a direct result the University of Georgia School of Medicine moved from its old building of Doric architecture, long since outgrown, to a new campus with a commodious building for its medical school and a new half million dollar hospital supplied by the issuance of bonds by the City of Augusta. It is worth noting that the citizens of Augusta raised fifty thousand dollars for renovation of the newly acquired building and for the purchase of equipment and supplies. Full-time faculty members were employed and entrance requirements were raised.

In Atlanta at that time were the following medical schools: Atlanta College of Physicians and Surgeons, Atlanta School of Medicine, Georgia College of Eclectic Medicine and Surgery, and Hospital Medical College. The Atlanta College of Physicians and Surgeons and the Atlanta School of Medicine were amalgamated and absorbed by Emory University as a school of medicine.

Following this period of renaissance in medical education, the two medical schools in Georgia have continued to grow and today they are comparable in physical plants, equipment and faculty with the better medical schools of the nation.

### *Present*

Let us examine the present status of the two medical schools in Georgia and their ability to serve the needs of the State. Emory University has on its campus three magnificent buildings for the teaching of the medical sciences, with eminent full-time teachers in charge of the various courses. In addition, it has a magnificent and well equipped university hospital on the same campus. For its clinical teaching it has the sole use in the City of Atlanta of the facilities of the Grady Hospital with an ever-increasing staff of full-time clinical professors. Friends of this institution and foundations continue their generous donations, leading to the establishment of one of the finest medical centers in the country.

The University of Georgia School of Medicine at the present time enjoys the use of three medical school buildings, two of which were built only a decade ago. Its pre-clinical departments are manned by able full-time teachers and, like those at Emory University, they are active in the field of original investigation. The school enjoys the use of the clinical facilities of the five hundred bed University Hospital and the Wilhenford Tuberculosis Hospital. It is



fortunate in having ample space for the construction of new buildings, so that land will not have to be acquired for this purpose.

These two schools of medicine in Georgia, needless to say, are carrying on in the progressive tradition of medicine in this State. In addition to exercising the most up-to-date medical care and cooperating with the State Health Department in the most modern means of disease prevention, teachers in these schools are adding their own contributions for the improvement of medical care.

Is it necessary to contrast the most recent advances in medicine with that of twenty years or even ten years ago? The newest drugs made are already household names, and I have particular reference here to the sulfonamides, to penicillin and to streptomycin. Certainly medical care in our State today is a far cry from what it was, not merely when Savannah was founded in 1733, or when the Medical College of Georgia graduated its first class in 1833, or when Flexner published his Bulletin Number Four on medical education in 1910, but even thirteen years ago in 1933, two hundred years after our commonwealth had its beginning.

### *Proposed*

What shall we say about the future of medical care and medical education in Georgia? We know that medical education is expensive. We know that medical care is also oftentimes quite costly. We know that there are still certain diseases that taunt medicine with the accusation of repeated failure in the attempt to eradicate them. Infantile paralysis, rheumatic heart disease, various types of arthritis, asthma and other allergic diseases and the great Nemesis of them all, cancer, require every ounce of mental energy and every pound of precious gold that can possibly be marshaled for the struggle against them.

As we need more and more support for

searching out the causes and cures of such diseases, so we need also increasing support for the schools of medicine and the associated medical centers for the training of our youth to become expert physicians, and for the alleviation of the ills of all classes of our people.

It is of little avail for our physicians to understand how to relieve human suffering if the patients cannot reach the physician or the physicians the patients. This means that the distribution of medical care in our State is by no means adequate to the demands of our sick, whether self-supporting or indigent. What is the answer?

In the future we should have district hospitals equipped with one hundred to one hundred and fifty beds, with resident staffs rotating from the medical centers. These hospitals should be fully equipped with all the armamentaria that young physicians become accustomed to during their training in the best medical centers. If necessary, the young physician may be subsidized in a rural community, certainly for the period of time until he can be replaced by another young physician under the same conditions. All of the routine cases can be treated in the district hospitals, and diagnostic problems and cases requiring highly specialized treatment can be sent to the medical centers.

All this can be done at State expense, or with the aid of foundations, or possibly by Federal subsidies not under Federal control.

The American public should avoid as it avoids the plague, the system of medicine that the planners in Washington and elsewhere are trying to cram down our throats. Every American who believes in free enterprise and the rights for which his forefathers fought should use every means at his disposal to prevent the regimentation of the physician and of the public under any plan of so-called socialized or panel medicine.

Let us see that in the future we shall have

free and untrammelled medical education, free and untrammelled medical care, both blossoming as our country has blossomed under a system of free enterprise and not hamstrung by a horde of bureaucrats in our country's capital. If this cannot be done without the expenditure of Federal monies, then it would be far better to forego the acceptance of such funds if strings are tied to them. We can find the necessary funds elsewhere.

In conclusion, may I quote a very pertinent and potent sentence from that great English warrior and statesman, Winston Churchill: "We must beware of trying to build a society in which nobody counts for anything except a politician or an official, a society where enterprise gains no reward and thrift no privileges."

## COMPLICATIONS OF ANTIRABIC TREATMENT

T. F. SELLERS, M.D.

*Atlanta*

Antirabic vaccine for human use is essentially a finely divided suspension of the brain tissue of rabbits which have been killed while in the terminal paralytic stage of fixed virus rabies. So far no satisfactory method has yet been devised for separating the specific virus antigen from brain tissue without destroying its antigenic properties. Webster and Clow succeeded in propagating rabies virus in tissue culture, and were able to obtain an almost pure virus suspension, but the protective potency of this suspension proved to be disappointingly low.

Brain tissue, like all animal tissues, is a combination of a great variety of complex protein substances. Some, if not all of these protein substances, when repeatedly injected into man or animals may stimulate the

formation of more or less specific sensitizing antibodies. It is to be expected, therefore, that repeated injections of antirabic vaccine may bring about varying combinations of local and systemic reactions ranging from immediate circumscribed erythema and swelling at the site of injection to immediate or delayed urticarial rashes often accompanied by fever, malaise and swelling of the joints. As a rule, reactions of this nature are not dangerous and do not contraindicate the completion of the prescribed series of injections.

However, there is another type of reaction which specifically affects the nervous system and manifests itself in several ways, ranging from a simple neuritis to a profound encephalomyelitis and paralysis. Three types are recognized:

1. *Peripheral Neuritis*—This is a rare type of reaction and more apt to occur during the latter part of the treatment. There may be a rise in temperature. The symptoms are referable to the facial nerve. Further treatment should be discontinued at once regardless of the severity of exposure.

2. *Dorso-Lumbar Myelitis*—Characterized by fever, gradually increasing weakness, numbness and tingling of the extremities, sphincter disturbances, and within two to four days, more or less, complete paralysis of the extremities, especially the lower. This syndrome usually begins after the tenth to twelfth day of treatment, and unless death intervenes due to cardio-respiratory complications, may last for several weeks. Complete recovery is the rule. Needless to say, at the very first sign of this type of reaction *treatment should be stopped at once.*

3. *Paralysis of the Landry Type*—This is similar to Type 2, but more severe and acute at onset. It is ushered in by nausea, vomiting, girdle pains, headache, fever, retention or incontinence of urine, and an

From the Georgia Department of Public Health Laboratories.

Read before the Medical Association of Georgia, Macon, May 9, 1946.

ascending paralysis of the extremities. The paralysis may ascend to involve the bulbar nuclei, and death from cardio-respiratory failure may occur. The mortality rate is high (30 to 50 per cent). Some recover completely, while others are left with varying degrees of paralysis.

That these reactions are entirely unrelated to the presence of rabies virus has been proven by their experimental production in animals after repeated injections of normal brain tissue from the same species, or from different species of animals. The studies of Schwenker and Rivers indicate that brain tissue of itself may function as a complete antigen which is organ specific rather than species specific. Horack reports a critical review of 16 cases of paralytic accidents in North Carolina. All but two were in persons having an individual or a family history of allergy. While there is still conflict of opinion as to its etiology, the prevailing belief at present is that treatment paralysis is an allergic phenomenon brought about by specific sensitization to brain tissue proteins.

It should be noted that in all three types the trouble does not begin until after the tenth or twelfth injection. There may be no warning. The victim may experience no untoward symptoms whatsoever during the first ten or more injections, then suddenly begins to have numbness and tingling of the extremities, girdle pains, nausea, vomiting, and general weakness, followed in a day or two by paralysis, usually beginning in or limited to the lower extremities. Disturbance of sphincter function is a constant symptom.

Fortunately these paralytic accidents are relatively rare. At the International Rabies Conference in Paris in 1927, Marie, Remlinger and Vallee reported only 329 cases among 1,164,264 persons treated, or roughly 1 per 3000. Since 1925 we have encountered 7 cases of treatment paralysis among approximately 50,000 persons treated, a

ratio of 1 per 7,000. But while rare, treatment paralysis is always a serious and distressing complication. The mortality is cited by various writers as ranging from 5 to 30 per cent. In our series of 7 there were four deaths, a mortality of 57 per cent.

Our first two cases occurred in 1925. Since then we have observed 5 others, making a total of 7, the last two as recent as 1945. While clinical outlines of these cases are described herewith, the salient features are set forth in Table I.

#### *Discussion of Table I*

1. All 7 were white. Five were males and 2 females. There were 5 adults and 2 children.
2. *Manner of Exposure*—Only 1 of the 7 was actually bitten. Under our present policy we would not have advised treatment for the other 6.
3. *Local Reactions*—In 3 patients the paralytic syndrome was preceded by local skin reactions of varying severity. Two of these had previously taken antirabic vaccine. The remaining 4 had no preliminary local reactions.
4. *Incubation Period* — This ranged from 11 to 15 days after the first injection. Note that in no instance did the symptoms appear before the tenth dose.
5. *Type of Paralysis*—Four cases were of the encephalomyelitic type with the Landry pattern of paralysis. Two were of the simple transverse myelitic type, and only 1 was of the neuritic type.
6. *Mortality*—There were 4 fatalities, the earliest occurring five days after onset and the latest 60 days after onset. All except one followed the Landry type.
7. *Pathologic Findings*—Complete autopsy was performed on 2 victims, and in brief the pathologic findings



TABLE I  
ANALYSIS OF 7 CASES OF ANTIRABIC TREATMENT PARALYSIS IN GEORGIA

Case	Exposure to Rabies	Local Reaction	Interval Between Start of Treatment and Paralysis	Number Injections Given	Type of Paralysis	Duration	Outcome	Remarks
1 E.J. W-M-7	Contact rabid dog. Not bitten	None reported	12	11	Landry type	21	Complete recovery	Antirabic treatment 14 months before.
2 A.J.H. W-M-40	Bitten thumb. Dog killed.	All doses reacted severely	12	11	Landry type	5	Death	No previous treatment. Autopsy refused.
3 P.R. W-M-6	Contact rabid dog. Not bitten	None reported	12	12	Transverse myelitis	19	Complete recovery	Antirabic treatment 3 years before.
4 Mrs. E.B. W-F-35	Contact rabid dog. Not bitten	None reported	12	12	Landry type	6	Death	Antirabic treatment 2½ years before.
5 B.V. W-M-66	Contact rabid dog. Not bitten	None reported	13	12	Landry type	27	Death	No previous treatment. Autopsy revealed encephalomyelitis. Rabies negative.
6 Mrs. E.W.A. W-F-47	Contact rabid dog. Not bitten	All doses reacted severely	15	12	Neuritic type Partial paralysis	60	Complete recovery	Antirabic treatment 27 and 19 years before.
7 D.T.H. W-M-43	Contact rabid dog. Not bitten	All doses reacted severely	15	12	Transverse myelitis	40	Death	Antirabic treatment 14 years before.

were similar to those usually found in encephalomyelitis due to other causes. The presence of living rabies virus was definitely ruled out by animal inoculation.

8. *History of Previous Antirabic Treatment*—Of extreme interest and importance is the fact that 5 of the 7 victims had previously received antirabic vaccine from 14 months to 27 years before beginning the final treatment. While the series of cases is small, we cannot ignore the significance of this observation. If we accept the prevailing belief that treatment paralysis is an allergic phenomenon brought about by sensitization to brain tissue proteins, we must

consider repetition of treatment as an acquired predisposing factor which should be avoided. In other words, we must realize that antirabic vaccine is not harmless, and should not be used promiscuously.

When confronted with problems of rabies prophylaxis the physician usually feels his responsibility so strongly that he is apt to lean over backward in playing safe, and to administer antirabic vaccine in many instances where his common sense tells him it is unnecessary. If he will only bear in mind the following principles he can do much to lessen the danger of treatment accidents:

1. Persons bitten or scratched by the teeth of rabid or suspicious animals should by all means receive antirabic

vaccine, although caution should be exercised in the case if the patient has previously received treatment.

2. Antirabic treatment is not warranted for exposures other than actual or suspected bites or scratches by the teeth of the suspected animal. Admitting the theoretical danger of exposures, such as claw scratches, or of getting saliva into fresh open wounds, I have yet to learn of a single instance of rabies developing where the exposure is definitely known to be other than an actual bite. Here the danger of death from treatment complications is greater than the danger from rabies. Six of the 7 cases reported in this paper could have been avoided if this principle had been followed.

3. Before starting antirabic treatment the physician should make sure that previous treatment has not been given. If it has, further treatment should be avoided or limited to a short booster course of less than 10 doses. Even so, at the first sign of such systemic reaction as tingling of extremities, girdle pains, headache and fever, treatment should be discontinued immediately. Even marked local reactions should be regarded with suspicion.

Every problem of exposure to rabies has certain individual aspects which may call for some modification of these three principles, but it must be borne in mind that deaths from treatment paralysis, rare as they are, occur more frequently than does death from rabies in persons exposed in any manner other than actual bites of rabid animals.

#### REPORT OF CASES

*Case 1*—E.J., white, male, aged 7 years. The past history of this patient was irrelevant except that at age 6 he was indirectly exposed to a rabid dog and received 21 injections of antirabic vaccine with no untoward

reactions. Fourteen months later he was again indirectly exposed to rabies and began his second series of the vaccine. No reactions were reported until the morning after the tenth injection when he began to complain of vertigo and numbness in his feet and hands. This was followed within 48 hours by nausea, vomiting, rapidly increasing weakness of all extremities, diplopia, frequent convulsions and "shooting" pains in his back, head and abdominal region. When hospitalized on the eighth day he was completely paralyzed, and unconscious—temperature 100.2° F.; pulse 160; respiration 29. There was total incontinence. After remaining in this condition without much change for ten days he began to show signs of returning consciousness and motion in his extremities, although he was still blind. Thereafter improvement was rapid. The paralysis disappeared by the fourteenth hospital day and normal vision returned by the eighteenth day. The patient was dismissed on the twenty-third hospital day, or 30 days after onset.

*Comment*—The type of paralysis in this case appears to be that of the Landry type in that it began in the extremities and ascended rapidly to involve both somatic and sensory nervous systems. There was apparently no urinary retention, which is more characteristic of simple transverse myelitis.

*Case 2*—A.J.H., white, male, aged 40 years. Bitten on dorsum of thumb March 23, 1925, by a clinically rabid dog. Antirabic treatment began the following day, one injection daily. The patient complained of local reactions following each injection. On the fifth day of treatment he complained of headaches and numbness of lower extremities, but the injections were continued daily until the eleventh day, when the headaches increased attended by diplopia and increasing weakness of extremities. On the twelfth day the patient was unable to stand and he was having difficulty in swallowing, dyspnea, frequent convulsive seizures, nausea and vomiting. He was taken to a hospital but died a few hours later during a convulsion.

*Comment*—Unfortunately autopsy was refused and it was not possible to rule out rabies by brain examination and animal inoculation. There is no record of previous treatment. However, the severe local reactions beginning with the first injection of the vaccine, the appearance of numbness of the extremities, headache and diplopia as early as the sixth day after treatment started, and the rapid development of paralysis are more indicative of treatment paralysis of the Landry type than rabies.

*Case 3*—P.R., white, male, aged 6 years. When this child was three years old he was bitten by a rabid dog and was given 21 injections of antirabic vaccine without untoward reactions during or after treatment. Three years later he was again bitten and began taking his second series of the vaccine. No reactions occurred until after the twelfth injection when he became paralyzed in his legs. Two days later the paralysis had ascended to involve the respiratory centers to the extent that the patient had to be kept under an oxygen tent, and at times artificial respiration had to be employed. By the sixth day after onset improvement was noted and the patient was able to walk without assistance. Recovery was rather slow but complete within 30 days.

*Comment*—This appears to have been an instance of simple transverse myelitis with ascending paralysis of the Landry type, relatively mild in degree, of shorter duration than usual, and not preceded by local or generalized reactions.

*Case 4*—Mrs. E.B., white, female, aged 35 years. In July, 1934, this woman was bitten by a rabid dog and took 21 injections of antirabic vaccine without complaint of reactions. Four other members of the family were also treated. In December, 1936, about 30 months later, Mrs. B. was again exposed to a rabid dog, though not bitten. Against the advice of the local health officer she insistently demanded and received 12 injections of antirabic vaccine. Four other members of the family were also treated, three of whom had taken the vaccine



before. There is no record of untoward reactions during this second treatment. However, several hours after her twelfth injection Mrs. B. noted numbness of her toes and fingers, followed in twenty-four hours by stiffness and pain in her neck and back. Two days after onset she became paralyzed in all extremities. This rapidly extended to her body, although there was no involvement of the cranial nerves. When admitted to a hospital on the fifth day, examination revealed a normal temperature, blood pressure of 165 systolic and a rapid pulse. All somatic reflexes were absent, but there was no pupillary disturbances. Her lungs were clear and she was able to take food. She was conscious, rational in speech. A few hours later, on the fifth day, she became cyanotic, had difficulty in breathing, and in spite of stimulants, including caffeine, strychnine and adrenalin, she died of respiratory failure. Autopsy was refused by the family.

*Comment*—This was a typical example of transverse myelitis with ascending paralysis of the Landry type.

*Case 5*—B.V., white, male, aged 66 years. This man was exposed to rabies by putting his hands in the mouth of a rabid dog. He was not bitten, nor had he previously received antirabic treatment. He was given 12 injections of antirabic vaccine by his physician, the last dose being injected May 24, 1937. On the day following the last injection the patient began to complain of severe pain in his back and legs. The sequence of events for the next ten days is not recorded, but on June 5 he was admitted to an Atlanta hospital complaining of extreme weakness in his lower extremities, restlessness, insomnia, and inability to urinate, in addition to severe bilateral sacroiliac pain. Five days later he became paralyzed in both legs and began to show weakness of the upper extremities. There was some elevation of temperature. His spinal fluid showed 30 cells, a 4+ globulin-Pandy-Ross-Jones 3+, and mastic curve 555310. By June 13 paralysis of all extremities was complete, and the act of swallowing was painful. June 18 temperature rose to 103, and the patient began to have difficulty in breathing; his lungs became congested with mucus and he died June 21. Autopsy revealed no gross pathologic changes other than pulmonary congestion, but a histopathologic study of the brain and cord showed inflammatory and degenerative changes characteristic of encephalomyelitis, including round cell infiltration of the perivascular spaces, rarefaction around the vessel walls, demyelination and atrophy of the nerve cells of the grey matter. Negri bodies of rabies were not found microscopically, and all mouse inoculations of nerve tissue were also negative for rabies.

*Comment*—This appears to be an example of ascending paralysis of the Landry type due to antirabic treatment.

*Case 6*—Mrs. E.W.A., white, female, aged 47 years. In July, 1945, this woman came in contact with the saliva of a rabid dog, but was not bitten. She applied to the county health officer for antirabic treatment, but when it was revealed that she had received antirabic vaccine twenty-seven years and again fifteen years prior to this exposure, the health officer not only assured her that such trivial exposure did not warrant treatment, but warned her of the potential danger of serious reactions. Nevertheless she insisted on having treatment, and assumed full responsibility herself. The vaccine was ordered and the patient was referred to a private physician for its administration. Beginning with the first injection she suffered severe local reactions throughout the series of 12 daily injections. In addition to local swelling and redness at the sites of injection, there was a generalized rash accompanied by intense itching. Three days after the final injection the patient began to complain of severe headache, backache and stiffness of the neck. The pain was not relieved by headache powders. Later on in the day her left arm became numb. Codeine every six hours afforded no relief, and the pains in her head and back became more severe. The following day she became partially paralyzed in her hands, feet and the right side of her face. There was noticeable respira-

tory embarrassment accompanied by choking sensations and precordial pains.

*Comment*—This was an unusual type of peripheral neuritic reaction and the only one of its kind we have encountered. It is of interest that the neuritis was preceded by rather severe local and generalized skin reactions which began after the first injection. The neuritis, however, did not appear until 15 days later.

*Case 7*—D.H.T. Sixteen days before admission to the hospital, this 43-year-old white man, a cotton gin operator, received his twelfth daily injection of antirabic vaccine. He had been "exposed" to the saliva of a rabid dog, but not bitten. This was the second series of treatment, the first having been given about fourteen years previously. Early in the course of the second treatment he complained of rather severe local reactions at the sites of the injections, as well as areas of urticaria elsewhere over the body, malaise and soreness, but he completed the treatment without interruption. Four days before admission the patient was forced to bed by weakness, malaise and severe pains in his back, extending from the scapulae to the hips bilaterally. The following morning he noted numbness about his hips, and weakness in the leg, and inability to void. In less than twenty-four hours later there was complete paralysis of the lower extremities, which extended upward as far as the level of the xyphoid process. At that time the patient was catheterized and 2000 cc. urine were obtained. He was admitted to a nearby hospital where he remained one day. The threat of further extension of paralysis, which might embarrass respiration, caused his removal to an Atlanta hospital where a respirator was available. Examination on admission was negative except the abdominal muscles were flaccid, and in the lower extremities there was complete loss of the sense of vibration, position, light touch, temperature and pain. Deep pressure was recognized slightly. Reflexes were completely absent, including Bashinski, cremasteric and abdominal. The upper extremities were normal as to motor and sensory function. For the next 40 days this status of paralysis remained unchanged, with no regression or extension, except for progressive atrophy of the lower extremities. There were temperature fluctuations ranging as high as 102° F., probably due to cystitis and a progressive involvement of the right lung. On the morning of the fortieth day the patient suddenly became dyspneic and cyanotic. cursory examination showed evidence of spontaneous pneumothorax. In spite of oxygenation and efforts to revive him he died within an hour. Autopsy revealed no gross finding other than right lung collapse. Histopathology of the brain and cord showed changes, especially in the cord, simulating those usually found in encephalomyelitis.

*Comment*—This was a typical example of the myelitis type of reaction. As a rule this type of paralysis recovers, but since there was no improvement whatsoever for 40 days it is probable that paralysis would have been permanent had not death from lung collapse intervened.

#### DISCUSSION OF PAPER OF DR. T. F. SELLERS

DR. BENJAMIN BASHINSKI (Macon): All of us, I am sure, enjoyed Dr. Sellers' interesting paper. I examined the literature as far back as possible, trying to find information as to a complication following prophylactic treatment of rabies and found in *The Journal of Medicine* in 1934 that Dr. Kelly reported paralysis following antirabic treatment, the paralysis affecting the leg and abdominal muscles and also the rectum. These complications occurred thirteen days after treatment and in that particular case the cause of the paralysis was not apparent. The symptoms were those seen in post-vaccine encephalitis.

In examining records I also found, as Dr. Sellers apparently has, that Remlinger in 1927 reported complications in 1,164,264 treated persons. The mortality was 16 per cent in the affected persons, and as Dr. Sellers stated there were three types of clinical symptoms of paralysis. The first, the Landry type with a mortality



of 30 per cent; second, dorso-lumbar-myelitic type with 5 per cent mortality, and third, the monosymptomatic type with no mortality. The most frequent causes of death were decubitus and cystitis, with a general septicemia. In 98 per cent of the cases recovery was usually complete. Treatment was entirely symptomatic.

I consulted Dr. Applewhite, who was health officer of Bibb County for eighteen years, and he had a record of over 3,000 treated cases without a single complication. Dr. Carey, taking this office in July, 1944, with a record of 91 taking Pasteur treatments and with only one child in the county to die apparently of rabies, but the child did have symptoms that would lead you to think it was the Landry type of paralysis. The child had had 18 treatments before the symptoms began to appear. Up to the present time we have had in our county, during 1946, 80 treated persons without any complications.

Dr. Sellers' paper is certainly timely, as we are consulted so often as to the advisability of taking Pasteur treatment, because perhaps a child has been playing with an animal. We advise them not to take treatments until they are bitten or scratched.

DR. T. F. SELLERS (Atlanta): I wish for the sake of emphasis to repeat three principles stated in the close of my paper:

1. Persons bitten or scratched by the teeth of rabid animals should receive antirabic treatment.

2. Antirabic treatment is not warranted for exposures other than actual bites and scratches by the teeth of rabid animals. Here the danger from treatment complications is greater than the disease itself.

3. Before starting antirabic treatment, the physician should make sure that no previous treatment has been given. If it has, further treatment should be avoided or limited to a short booster course of less than 10 doses.

I realize that it is not always an easy matter for the physician to practice these principles when he is dealing with frantic parents, or with neurotic individuals. Nevertheless, if he will try to follow these principles he will avoid serious reactions and at the same time assist in combatting the false and exaggerated ideas most people have regarding the infectiousness of this disease.

I appreciate very much Dr. Bashinski's discussion. You may be interested to know that of the seven cases of treatment paralysis I have referred to, one was a resident of Macon. I have a complete record of this case, but time will not permit its discussion.

#### VETERANS ADMINISTRATION

Around 65,000 veterans are applying monthly for admission to Veterans Administration hospitals or homes.

Veterans Administration Board of Appeals now is disposing of an average of 2,900 appeals from VA rulings monthly.

More than 40,000 veterans are operating their own businesses with G.I. loans guaranteed by Veterans Administration.

Construction is underway on nearly \$37,000,000 in contract awards for new Veterans Administration hospitals or for additions to existing hospitals.

Veterans Administration now has about 130,000 employees eligible for veterans preference. They comprise 60 per cent of all VA employees, male and female.

## PERORAL ENDOSCOPY

### *A Six-Year Report*

WILLIAM L. BARTON, M.D.

*Macon*

Approximately six years ago a service for laryngoscopy, bronchoscopy, and esophagoscopy was set up at the Macon Hospital, Macon.

The equipment at that time was a bare minimum working set. The service has slowly but steadily grown; new equipment has been added from time to time until now we have an almost completely equipped service.

Records at the hospital show 303 cases have been handled in the operating rooms. There were 129 bronchoscopies, 121 esophagoscopies, and 53 laryngoscopies. Occasionally, work has been done in treatment rooms, emergency rooms, and sometimes even in the patients' rooms. On several occasions the equipment has been taken to other hospitals in Macon, and to hospitals outside Macon within a radius of 60 miles.

South Georgia has furnished a large number of the emergency foreign body cases, with a few coming from Florida. In all, well over 300 patients have been seen in these six years. Of this number, 148 were for the removal of foreign bodies; the remaining were medical cases.

I will not attempt to list each separate case but will only try to give you a general idea of the scope of the service.

Patients were bronchoscoped for unexplained dyspnea; some for unexplained expectoration of pus and mucus; some were for unexplained cough and hemoptysis; some were chronic asthmatics. Some were bronchoscoped for lung abscess; atelectasis, postoperatively, and in the newborn; laryngeal symptoms, particularly hoarseness, have received attention; tumors, both be-

nign and malignant, have been "picked up" on many occasions.

Two early bronchiogenic carcinomas deserve mentioning. On both biopsies were taken from the left main bronchus in almost the same location. The patients were middle-aged white males in excellent health. They were referred immediately to Dr. W. F. Rienhoff of Johns Hopkins, Baltimore, who removed their left lungs. Today the patients are in good health and are going about their business.

Too many cases have been seen too late to help. For instance, I have seen some 18 carcinomas of the larynx since I have been here and only 3 were suitable for laryngectomy. There was a fourth who had to have a tracheotomy and was not a good risk. A laryngectomy was done, however, and a recurrence in the old operative site occurred in a year's time, which resulted in death. Of the other 3, 1 laryngectomy is doing well and is of four years' duration. The third is now dead following a heart attack, so I was told. An autopsy was performed on this man, and I understand no recurrences could be found.

So far, I have seen only 2 cases of intrinsic carcinoma of the larynx early enough for a laryngeal fissure. One was a middle-aged white male. The other was a middle-aged colored female. These I operated on immediately, following biopsy and diagnosis, and now they are well. Their voices are good and there has been no recurrence in the two-year time.

Lipiodol studies have frequently been done, and suction bronchoscopy in cases of bronchiectasis. If the lipiodol was requested for a certain lobe, catheterization of this lobe was done and under the fluoroscope the right amount of the oil in the right place was a certainty. As a rule, however, lipiodol injections have been simple office procedures by the indirect laryngoscopy method.

Before tracheotomy in children, laryngoscopy and bronchoscopy have proven of great value. It has become now our routine, and with better understanding of postoperative care our mortality has been almost nil.

Dilating strictures of the esophagus and preventing strictures of the esophagus, following caustic burns, have also been some of our many worries.

The most common offender for aspiration of foreign bodies is the child 16 months to 2 years of age, although occasionally adults are capable of aspiration of foreign bodies with surprising ease.

Esophageal foreign bodies have been more common than one would expect. Some of these have been removed in only a few seconds' time; others have slipped down into the stomach as attempts were made to get a good grip on them with forceps, or as they were hit by a suction tip. Again, in a few instances, as the patient is brought to the operating room, preoperative medication having been given, the patient would suddenly sit up on the table and say "Doctor, you're too late. It's gone. I don't feel it any more".

Again we have put the patient to sleep and had the foreign body slip on down into the stomach before it is seen.

Twice, in infants, we have followed rather large open safety-pins through the intestinal tract until they have passed with no complications.

Sometimes foreign bodies in the esophagus have given much more trouble than in the bronchi; two cases I recall in particular. One was a rather large Negro male who had a pickled pig knuckle lodged in the middle esophagus. The foreign body was slippery, smooth, and every part was rounded. It measured 3 x 3.1 cm. It was finally removed after over 30 minutes manipulation with large ball-shaped forceps.

Another case was that of a Negro baby

Chart 1—TEN BRIEF AND TYPICAL CASE REPORTS

<i>No.</i>	<i>Name</i>	<i>Sex Age</i>	<i>Diagnosis</i>	<i>Location</i>	<i>Scope</i>	<i>Time</i>	<i>Complications</i>
1	R.A.	W.M. 3 yrs.	Sandspur 24 hours	At level of cricoid cartilage	4 mm.	1½ min.	None
2	J.M.	W.M. 19 mos.	Field pea with atelectasis 18 hours	Right main bronchus	4 mm.	2 min.	None
3	P.Mc.	W.M. 6 yrs.	Open safety pin 6 months	Left main bronchus	6 mm.	20 min.	None
4	J.V.	W.Ch. 9 yrs.	Open safety pin 18 hours	Right lower bronchus	6 mm.	25 min.	None
5	C.P.	W.Ch. 8 mos.	Open safety pin 24 hours	Upper esophagus	5 mm.	10 min.	None
6	B.B.	C.F. 11 mos.	Three pieces of peanut 3-4 days	Left main bronchus	4 mm.	15 min.	None
7	F.M.	W.F. 15 yrs.	Round gem-clip 6 hours	Right lower bronchus	6 mm.	3 min.	None
8	J.M.	W.M. 15 mos.	Piece of rock 6 months	Right lower lobe bronchus	3-5 mm.	3-4 min.	None
9	C.E.L.	W.F. 21 mos.	Pecan hull 2-3 days	Right main bronchus	4 mm.	2 min.	None
10	J.J.	W.F. 2 yrs.	Nickel and dime 4 hours	Upper esophagus	Laryngo- scope	20 sec.	None

girl, 4 years old, who had swallowed lye at the age of two. A gastroscopy had to be performed and for two years she had been in and out of the hospital. One night this child was brought in with a history of swallowing a pin. X-ray confirmed this, for on viewing the plates a rather large corsage pin appeared in the lower esophagus, point up. Through a 6 mm. esophagoscope the point was located, sticking into the wall of the esophagus. The head was evidently wedged against the stricture. The point was finally engaged, after some 30 minutes effort, and safely removed. There were no complications. The pin measured 3 inches long.

The largest non-metallic object removed by bronchoscopy was a cork stopper

2 x 2.2 x 1.5 cm. This stopper was removed from the trachea at the bifurcation. The man from whom it was taken had been using it to block off his tracheotomy opening so that he could talk plainer. It had wedged in a little too far for him to get out, and in his attempts to remove the cork he had pushed it into his trachea. Fortunately for him, he had previously cut a small hole through the middle of the cork, which gave him enough air space until it could be removed.

In bronchoscopy for the removal of foreign bodies, there have been four deaths—two were due to peanuts; one infant died a few hours after the peanut was removed. It had been in his right main bronchus several days before admission and the child was in



poor shape before the operation. The second was also an infant with the same history; death came however of pneumonia two weeks following operation. In all, there have been 8 bronchoscopies for the removal of peanuts.

The third death occurred in a 2-year old who had aspirated a long wooden bead two days before admission. It had blocked off the entire right main bronchus and swelling had prevented a clear field to see the foreign body after two attempts to grasp the object. The child's general condition prevented further manipulation. Before further instrumentation, the child ceased to breathe the following day. This, by the way, is the only foreign body in the lungs I have failed to remove.

The fourth death occurred in another 2-year old who had aspirated a watermelon seed. She had been treated 6 months for pneumonia and asthma. On admission the child's condition was extremely poor. She had been in the hospital two weeks before the possibility of a foreign body was suspected. On being turned over to our service she was immediately bronchoscoped. The seed was easily removed from the right main bronchus close to the bifurcation. The child, the first day, showed remarkable improvement but by the fourth postoperative day paralysis of the extremities developed and death resulted in 24 hours from the onset. The impression of the Pediatric Service was that the cause of death was infantile paralysis. The final diagnosis of infantile paralysis in this case, in my mind, is still doubtful.

NATIONAL CONFERENCE ON MEDICAL SERVICE

The 20th annual meeting of the National Conference on Medical Service will be held at the Palmer House, Chicago, February 9. Registration will commence at 9:00 A.M. and the program will include discussions in the fields of national affairs, economics and medical education. All physicians are invited to attend; there is no registration fee. Dr. Cleon A. Nafe, Indianapolis, is president of the conference and Creighton Barker, New Haven, is the secretary.

EXPERIENCES WITH MALARIA  
ON A PACIFIC ISLAND

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The purpose of this paper is to present the results of a study of malaria as experienced by a Special Construction Battalion, U. S. Navy, on a tropical Pacific Island.

The island on which the present study was made has a rainy season from December through May, and a comparatively dry season from June through November. The malaria vectors present were the *Anopheles punctulatus farauti* and the *Anopheles punctulatus mohuccensis*. The pest mosquitoes, aedes and culex, were plentiful. This island has been one of the most heavily infested malaria areas in the world.

The camp site was designated by military necessity, with no consideration given to malaria prevention. The camp was located at the seashore in a palmgrove adjacent to a river. The elevation was one to four feet above sea level and the drainage was exceedingly poor.

Table 1—Incidence of malaria by months.

	1943	Primary	Secondary	Total	Average Strength
March .....	0	0	0	0	1,033
April .....	27	0	27	27	1,025
May .....	111	5	116	116	1,019
June .....	40	20	60	60	981
July .....	15	11	26	26	968
August .....	17	9	26	26	947
September .....	11	14	25	25	928
October .....	10	18	28	28	909
November .....	16	10	26	26	897
December .....	4	10	14	14	860
1944					
January .....	8	22	30	30	843
February .....	0	7	7	7	826
March .....	5	6	11	11	822
	264	132	396	396	919

Casual cases treated — 76  
Total cases treated — 472

The incidence of malaria in rate per thousand per annum, by months, is obtained

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by the transposition of the figures given in Table I, with corrections for the variations in the days of the months and in the personnel strength by the formula:

$$\frac{\text{Cases} \times 1,000 \times \text{Days of year}}{\text{Strength} \times \text{Days of month}}$$

Table 2—Cases per thousand per annum

1943	Primary	Secondary	Total	Rate for all activities on the island
April .....	321	.....	321	1,052
May .....	1,282	58	1,340	909
June .....	496	248	744	636
July .....	182	134	316	608
August .....	211	112	323	263
September .....	144	184	328	287
October .....	129	233	362	230
November .....	217	136	353	206
December .....	55	137	192	150
1944				
January .....	122	334	456	200
February .....	.....	107	107	126
March .....	72	86	158	124
Cases per 1,000 for the year .....	287	144	431	398

The figures in the last column are those of the Malaria Control Unit, U. S. Army.

The conditions necessary to observe closely the clinical course of malaria are fulfilled in this study. The men lived and worked as a group. The medical staff was attached to and lived with the men. The entire personnel were encouraged to report to sick call at the earliest appearance of symptoms, and cases could be detached early, treatment begun, and the men returned to duty with a relatively short period of disability.

The majority of the men reported within the first to the third day after the appearance of the symptoms. Of these, 84 had fever for only one day, 96 for two days and 68 for three days. Following the fever, 54 men were kept in the sick bay for two days, 102 for three days and 109 for four days. All patients were given seven days treatment in their quarters.

There were very few men who were not able to return to a full work schedule following this length of treatment. In the majority of instances an interval of from ten to twelve days elapsed between the initial

treatment and final return to work. It was found that this was sufficient time for almost complete recovery of strength.

There was no difference in the clinical course or symptoms in benign tertian and malignant tertian cases. This was probably due to the immediate or early treatment given, which did not allow the individual types of malaria to follow the orthodox course. The physical findings were as a rule negligible. The spleen was palpable in very few instances.

Table 3—Symptoms in 370 patients

1. Fever .....	357
2. Malaise, fatigue, debility, generalized aching of muscles and joints, various joint pains .....	256
3. Chills .....	242
4. Headache .....	240
5. Backache .....	78
6. Nausea and vomiting .....	47
7. Rhinitis, cough, sore throat .....	31
8. Dizziness .....	17
9. Diarrhea .....	17
10. Profuse sweating .....	10
11. Abdominal pain or distress .....	10
12. Chest pain (very severe) .....	7
13. Insomnia .....	5
14. Nervousness .....	3
15. Mental depression .....	2
16. Irrationality .....	2
17. Cardiac pain .....	1
18. Difficult breathing .....	1
19. No symptoms .....	6

Treatment consisted of quinine hydrochloride, grains 10 three times a day until the patient was free from fever; and atabrine, either 3 or 1½ grains three times daily for five days. On the fifth day a blood smear was taken and if it was positive treatment was continued until the smears became negative. All patients were then given atabrine, 1½ grains, twice daily until they returned to work.

When a patient was unable to ingest quinine or atabrine, quinine dihydrochloride was given intramuscularly, or grains 7½ in 500 cc. of saline and dextrose solution were administered by the intravenous route. Atabrine dihydrochloride, grains 3, was given intramuscularly. One or both drugs being given at six hour intervals until the patient could take oral medication. Severe nausea was usually controlled by

Table 4—Secondary attacks of malaria by months

	1943					1944							
	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Total
Primary .....	27	111	40	15	17	11	10	16	4	8	0	5	264
Secondary:													
1st .....	—	5	15	9	5	11	9	6	5	12	2	1	80
2nd .....	—	—	5	2	3	2	7	2	1	6	2	2	32
3rd .....	—	—	—	—	1	—	2	2	—	—	2	—	7
4th .....	—	—	—	—	—	1	—	—	3	2	—	1	7
5th .....	—	—	—	—	—	—	—	—	—	—	1	1	2
6th .....	—	—	—	—	—	—	—	—	1	2	—	1	4
Total Secondary.....	—	5	20	11	9	14	18	10	10	22	7	6	132
TOTAL .....	27	116	60	26	26	25	28	26	14	30	7	11	396

giving morphine tartrate, grain  $\frac{1}{4}$ , one hour before the quinine and atabrine were given.

In cases of severe debility or secondary anemia, iron sulfate, grains 5 three times a day, and multiple vitamins two capsules daily were given. Response to these medications was usually rapid. When an illness was thought to be of intestinal or respiratory origin and later proved to be malaria, sulfathiazole was frequently given. There was no improvement in these cases until the malaria therapy was begun. On the other hand, those patients on whom negative smears were obtained but in whom there was strong clinical evidence of malaria were given treatment for malaria on admission. Many man days of work were saved in this manner.

It is impossible as long as a man remains in a malarial area to determine if later attacks caused by the same species of plasmodium are exacerbations of latent malaria or if there has been a reinfection. In this report all attacks after the initial or primary one are referred to as secondary attacks.

Malaria tends to be a chronic disease and the primary attack is frequently followed by a secondary attack. In this group the number of secondary attacks in individuals increased to as many as six (a total of seven) attacks. It should be borne in mind that these secondary attacks are of two origins: those caused by an exacerbation of

a dormant original infection or those caused by a reinfection. It was impossible to distinguish between the two types when one species of the plasmodium was involved.

Thirty-eight patients had attacks of more than one kind of malaria as shown in Table 6.

With this wide variety of possible combinations, it is obvious that many secondary attacks must be due to reinfection. It is possible that the higher incidence of the recurrent attacks of benign tertian is related to the more frequent occurrence of primary benign tertian cases, in addition to the fact that this variety tends to recur most frequently.

It was found that the men having attacks of benign tertian malaria were more debilitated by the disease than were those having the malignant tertian variety.

A malaria survey of the entire battalion was made in November 1943. Of a total of 890 smears 6 (0.07 per cent) were found to be positive. It is of interest that the six men had never had symptoms of malaria and had been on the island for a period of eight months.

Most patients were sufficiently recovered within a short time to return to work. However, 18 men were so weakened by the disease that either they could not return to work or, having returned to work, were so weak that they could not continue with their jobs. These cases were classified as "asthenia,



Table 5—Secondary malaria as to types

Number Having Secondary Malaria	Benign Tertian	Malignant Tertian	Clinical	Species Undetermined	Mixed	Records Not Available
68	81	24	13	4	1	9
	61%	18%	10%	3%	0.7%	7%
Total secondary cases — 132						

Table 6—Types of malaria in relation to attacks

Number of patients	Original Attack	Secondary Attacks					
		1st	2nd	3rd	4th	5th	6th
5	Clinical	Benign					
7	Benign	Clinical					
2	Malignant	Benign					
1	Benign	P. S. U.					
4	Benign	Malignant					
1	P. S. U.	Malignant					
1	Benign	Malignant	Benign				
2	P. S. U.	Benign	Benign				
1	Clinical	Benign	Benign				
2	Benign	Malignant	Malignant				
1	Malignant	Malignant	Benign				
1	P. S. U.	Benign	Malignant				
1	Malignant	Benign	Benign				
1	P. S. U.	Clinical	Benign				
1	Benign	Benign	Malignant	Benign			
2	Benign	Benign	Benign	Malignant			
1	Benign	Malignant	Mixed	Benign			
1	P. S. U.	P. S. U.	Clinical	Benign			
1	Benign	Benign	Benign	Malignant	Malignant		
1	Benign	Benign	Benign	Benign	Malignant		
1	Benign	Benign	Benign	Benign	Benign	*P. S. U.	Benign

\*P.S.U.—Plasmodium species undetermined.

Table 7—Asthenia, postmalarial

Cases	Number Patients	Number Evacuated
One attack P. vivax.....	2	2
Two attacks P. vivax.....	5	4
Three attacks P. vivax.....	2	2
Six attacks P. vivax.....	1	1
P. falciparum alone.....	0	0
One attack P. vivax and two attacks P. falciparum.....	2	2
One attack P. vivax and one clinical.....	2	1
Four attacks P. vivax and one attack P. falciparum.....	1	1
Five attacks P. vivax and one attack P. falciparum.....	1	1
Six attacks P. vivax and one attack P. falciparum.....	1	1
Two attacks P. vivax and one attack P. falciparum, one attack P. S. U.	1	1
Total.....	18	16

Table 8—Operational fatigue and malaria

Total cases of operational fatigue.....	196
Operational fatigue with types of malaria:	
One attack P. vivax.....	34
One attack P. falciparum.....	4
Two attacks P. vivax.....	7
Three attacks P. vivax.....	2
Two attacks P. falciparum.....	2
Two or more attacks P. vivax and P. falciparum.....	10
Total operational fatigue patients evacuated.....	161
Operational fatigue patients evacuated after 12 months.....	134
Operational fatigue patients with malaria.....	59
Percentage of entire battalion that had malaria.....	25
Percentage of operational fatigue patients with malaria.....	30

During the year on the island there were 196 cases of operational fatigue, among these being 59 cases who had previously had malaria. One hundred sixty-one patients with operational fatigue were evacuated, including 134 transferred at the end of the 1-2 month period. Twenty-five per cent of the entire battalion had malaria and 30 per cent of the patients with operational fatigue had malaria. It was observed that a few of the cases of operational fatigue

postmalarial," and of these 16 were evacuated. All the 18 men had had the benign tertian malaria and five had had both the benign and malignant types. The average time between the original attack and the date of evacuation was 6½ months, the longest interval being 10 months.

probably were initiated by malaria.

Plasmochin was not used routinely. When it was prescribed because of asthenia or repeated attacks of malaria, it was of no value either in alleviating the symptoms or in preventing the recurrence of the attacks. It was used in only seven cases and of these five had attacks shortly after the medication was discontinued.

Atabrine was issued by a corpsman to each man at breakfast time and there was no check on its being ingested. The suppressive treatment of malaria consisted in administering atabrine grain  $\frac{3}{4}$  daily, and grains  $1\frac{1}{2}$  on Sunday. In January 1944 this was changed to atabrine grains  $1\frac{1}{2}$  six times a week. Those unable to take the atabrine were given quinine grains 5 daily.

After the unit had been on the island for a period of ten months, a questionnaire was sent out seeking information as to the taking of atabrine. It is possible that many men in various units did not take atabrine. The questionnaire was worded so as to induce the men to be truthful in their answers. The following is the form used:

NO PERSONAL RECORD OF THIS INFORMATION IS TO BE MADE AND IT WILL BE KEPT STRICTLY CONFIDENTIAL. PLEASE BE ACCURATE. THIS INFORMATION IS FOR STATISTICAL WORK ONLY AND IS VERY IMPORTANT.

1. How many times have you been in sick bay with malaria?
2. How have you taken atabrine?

CHECK ONE

Every day .....  
Occasionally .....  
Not at all .....

NAME OR INITIALS

RETURN TO COMPANY CLERK

The men evidently were impressed by the statement that no personal record was to be made of the information because their answers were obviously very frank. The results of this questionnaire are given in Table 9.

Table 9—Results of questionnaire on the taking of atabrine

<i>Method of taking atabrine</i>	<i>Total</i>	<i>Number who had malaria</i>	<i>No. times they had malaria</i>	<i>Per cent who had malaria</i>	
			<i>Times</i>	<i>No. men</i>	
Take atabrine daily	346	94	1 —	61	27
			2 —	22	
			3 —	8	
			4 —	2	
			6 —	1	
Take atabrine irregularly	322	78	1 —	51	21
			2 —	20	
			3 —	5	
			4 —	2	
Take atabrine not at all	62	15	1 —	12	24
			2 —	2	
			3 —	1	
Number of men answering			—	730	

Men taking atabrine regularly numbered 346 and of these 94 (27 per cent) had malaria. Men not taking atabrine at any time numbered 62 and of these 15 (24 per cent) had malaria. It appears that in this instance the prophylactic use of atabrine made no appreciable difference in the incidence of malaria attacks.

The camp was sprayed with Diesel oil No. 2 at five to seven day intervals, or as needed. A weekly detailed inspection was made with a thorough search for uncoiled pools of water, for bottles and cans which might hold water, and for mosquito larvae. Ditching and ditch cleaning in so far as possible were done by these men. Insecticides were used in all enclosures whenever practical.

All men were supplied with bednetting for sleeping. They were made to wear their sleeves and trousers rolled down from sunset to sunup. After some months mosquito repellent was freely obtainable, and the camp was made out of bounds to the natives. During the first six months there were frequent air raids and the men spent many hours in their fox holes, frequently with insufficient time to properly clothe themselves for mosquito protection.

At the end of a year, at the same time of the year that the battalion under study landed, a similar battalion occupied the camp site. Three months after landing not a single case of malaria had occurred in the second battalion. This strongly suggests that some of the primary cases of malaria in the first battalion during the last few months on the island might have been earlier infections which had remained dormant until late in the one-year period. It proves also that the antimosquito measures used during the year were extremely successful.

It is believed from our experience that mosquito control is more important than chemoprophylaxis with atabrine in the prevention of malaria.

### *Conclusions*

1. Malaria control measures were successful with this group of men as evidenced by the marked decrease in the primary cases during the later months.
2. Mosquito control is more important than chemoprophylaxis with atabrine in the prevention of malaria, but both methods should be used.
3. Upon landing in a known malarious area, it is very important that mosquito control by the known successful methods be begun at once and that discipline in this matter be rigidly enforced.
4. Atabrine suppresses but does not prevent malaria.
5. In most cases of malaria 10-12 days is adequate time for treatment, recovery, and return to duty.
6. In this group benign tertian malaria occurred three times as often and was more disabling than the malignant tertian variety.
7. In a non-combat forward area malaria alone is not sufficient cause for evacuation.
8. Malaria patients showing signs of severe

asthenia or who had incapacitating complications were evacuated.

9. Plasmochin was of little or no value in the few cases treated.

### DISCUSSION OF PAPER OF DR. C. DIXON FOWLER

DR. J. M. BARNETT (Albany): I regret very much that Dr. Sydenstricker is not here to discuss this paper; and also one of the best informed men in the State, Dr. Winchester.

It has been my pleasure to be in a malarial district in the practice of medicine since 1902. Albany gets credit for the first malarial control in South Georgia. The first malarial control by any individual in Georgia was by Dr. H. F. Harris, Director of Public Health in Georgia. He cooperated with me and had the first State Branch Laboratory in Georgia from 1906-1908, at Pretoria.

The Doctor has covered the territory well, but I think the best book on malaria was that written several years ago by my old teacher, Dr. Stitt, of Washington, D. C. The first county-wide malarial control was initiated and directed by me in Dougherty County and the work continues under my direction.

The diagnosis is the most important. All of us should be on the lookout. You know why. These returning veterans. The word that you should not use in anti-malarial control is "benign". There should be no such word in your dictionary as "benign". If so, stamp it out. There is no treatment for malaria that is curative.

The first work done in Dougherty County was under the supervision of Dr. Seckinger and Dr. Griffiths, who are now in Washington, D. C., connected with the Public Health Service. We have suppressive drugs, that is all. Who cures malaria? Not the doctor. We suppress it and hold it in abeyance, but so far we have no specific drug that will cure malaria. One of the best men in the country in the treatment of malaria is Dr. Griffiths, of the Public Health Service. I am quoting when I say, "There is no specific for the treatment of malaria." There is no such word as "benign" malaria. You don't get well of it by taking drugs. You can hold it in abeyance. I hope before I die that we will have a specific drug that will cure every case.

With the returned veterans, we can always be on the lookout, and don't take an ordinary technician's word for it. It takes a good man or a good woman to find malaria where they have had drugs in the treatment; and if and when necessary, if you are in doubt, puncture the spleen. I have punctured many spleens and had no ill effects. You must know where the needle goes. Dr. Darling, Rockefeller, gave a demonstration of splenic puncture in 1919, in our malarial control in Dougherty County. Whenever he failed to find parasites in the spleen, he would always say there was no malaria, but we found out he was wrong because if the patient had drugs you are not going to find parasites in the spleen, and will not find it in the peripheral circulation. Don't give up when your laboratory technician tells you that he did not find malaria. Keep watching. Keep waiting and keep that soldier or ex-soldier under observation for at least three years. I carried malaria in my blood for four years, and never had a chill.

It is a great privilege to talk on this subject.

DR. C. DIXON FOWLER (Atlanta): I want to thank Dr. Barnett for his discussion. The reason I did not mention DDT as one of the antimosquito measures is because at the time there was none available at our location.



# **THE JOURNAL**

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## **PSYCHOSOMATICS AND ENDOCRINOLOGY**

It has long been known that the higher brain centers markedly influence hypophyseal activity. The responsiveness of the endocrine glands to reactionary deviations of the external environment introduces the question of the relationship of the nervous system to the endocrine glands. The pituitary is under hormonal and neural control. The secretions of the anterior pituitary are directed at its target glands; i.e., gonads, adrenal cortex and thyroid. These in turn modify anterior pituitary hormonal levels, thus setting up a reciprocal relationship. The higher centers of the brain, however, through the hypothalamico-hypophyseal pathways temper the activity of pituitary function.

The remarkable increase in the fertility index of the populace during the period of the war may be placed under this heading. How else can account be made for the striking increase in the incidence of conceptions among women who had been barren for many years before the war? The general birth rate increased tremendously and the increase certainly could not be attributed to improved nutritional or living conditions. The exultation, the excitement, and the mass hysteria of wartime may well have caused a stirring in the primordial brain stem which harbors the centers of our primitive instincts and emotions. Preservation of the race must be brought into balance with the loss of mankind in battle. Can it be that such a mechanism sets up pathways which favorably influence pituitary function?

Emotions such as great desire or fear may upset the target glands through a block in the hypothalamico-pituitary pathway. Consider, for instance, the menstrual irregularities which result from emotional disturbances due to dire fear or great desire. Witness the barren young matron who, obsessed with an intense yearning for conception, experiences a prolonged period of amenorrhea accompanied by morning nausea and abdominal bloating. Witness again the impeccable young lady who, during an amorous adventure, suffers a moral blackout. Then fear of pregnancy takes reason prisoner, and an amenorrheic episode follows. In both instances, amenorrhea terminates abruptly on the assurance of the physician that they have been laboring under a misconception. During the war the incidence of functional amenorrhea amongst the women in the armed forces was high. Sher studied the causes of delayed menstruation in the Women's Auxiliary Air Force (British). He found that 139 out of 2,312 air-women developed amenorrhea lasting from one to seven months. Change of environment and varying emotional experiences no doubt played a role in bringing about an imbalance in the hypothalamico-pituitary relationship.

Subject to re-interpretation in the light of this concept are the obesities in certain maladjusted individuals, exophthalmic goiter in persons subjected to repeated psychic stress, menstrual disturbances in women experiencing distressing emotional episodes, endocrine imbalance in the tormented young woman with anorexia nervosa. None too obvious mental hurts are reflected in disturbances of bodily function, just as illness and disorders of the body condition, and shade every thought and action. Shakespeare long realized that

"We are not ourselves  
When nature being oppressed commands the mind  
To suffer with the body."

ROBERT B. GREENBLATT, M.D.

## FIND 1,500,000 DEVELOP PEPTIC ULCERS IN ANY 10 YEAR PERIOD

Andrew C. Ivy, noted physiologist and executive vice president of the professional schools of the University of Illinois in Chicago, estimates that 1,500,000 persons in the United States develop peptic ulcers during any 10 year period.

Writing in the December 28 issue of *The Journal of the American Medical Association*, Dr. Ivy claims that from five to 12 per cent of the population become afflicted with ulcers, one of mankind's greatest scourges, during a modern lifetime. "Not all may consult a physician," he says, "because of the mild character of their symptoms."

Stomach ulcers, known properly as peptic ulcers, have challenged the medical profession ever since 1772 when John Hunter, London pathologist and surgeon, discussed the question of why the stomach does not digest itself.

"The problem of peptic ulcer challenges medical science today," Dr. Ivy writes, "because among the chronic diseases it ranks tenth as a cause of death and twelfth as a cause of days lost from work."

Dr. Ivy's study, entitled "The Problem of Peptic Ulcer," reveals these facts:

—The death rate per 100,000 in the United States from peptic ulcer has increased from 2.7 in 1900 to 6.3 in 1943.

—The death rate in men for both gastric and duodenal ulcer has increased since 1920, whereas that for women has decreased.

—More people die from gastric than from duodenal ulcers.

—Ninety per cent of the cases of peptic ulcer are first diagnosed after the age of 20.

—The most discouraging characteristic of peptic ulcer is its likelihood to recur.

—The adherence to a strict therapeutic regimen solely is not certain to help, unless the patient is able to live a "calm life."

—The results of years of peptic ulcer study have provided "the blocks of a jigsaw puzzle which at present cannot be fitted together to provide an adequate picture of the cause or causes of the disease."

—Data support the commonly expressed statement that "chronic" duodenal or gastric ulcer in man usually heals rapidly under conditions of strict medical management.

—A physician should not be too hasty in accepting a casual relationship between social stress and peptic ulcer, remembering that the Abyssinians and the Hindus of southern India have a high incidence of gastric ulcer.

—Most patients with ulcer will not learn to live a "calm life" and remain on a strict management regimen.

—Physical and mental rest is an important "favorable condition" for healing of the "chronic" peptic ulcer.

—Surgical methods for the prevention of ulcer recurrences are to be considered as stopgaps, to be used until some more effective medical method is discovered.

Dr. Ivy prepared his *Journal* paper some time ago and since then he has announced the development of a new hormone, called enterogastrone, which scientists hope will heal ulcers and also prevent their recurrence. The hormone is derived from the mucous lining of the upper intestinal tract of hogs.

Work in developing the colorless substance was done at Northwest University medical school, where Dr. Ivy, prior to assuming his present post last September, had headed that institution's department of physiology since 1925.

Dr. Ivy says that scores of patients have been treated with this hormone and "the results are sufficiently encouraging to show this method of attack on the problem of the prevention of recurrences of peptic ulcer is worthy of further study."

## U. S. PUBLIC HEALTH SERVICE PROVIDES PROOF DEMEROL IS ADDICTING DRUG

More and more evidence is being accumulated at the United States Public Health Service Hospital at Lexington, Ky., to show that Demerol is an addicting drug.

Three cases illustrating addiction to Demerol are reported in the December 28 issue of *The Journal of the American Medical Association* by Herbert Wieder, M.D., Assistant Surgeon (R), United States Public Health Service, Lexington.

Dr. Wieder points out that Demerol "should be regarded as an addicting drug in the same class as the opiates."

Demerol, which was discovered in Germany, is under federal narcotic control.

## EXPLODE MYTH THAT NEGRO IS IMMUNE TO STONES IN URINARY TRACT

Exploding the myth that the American Negro is immune to stones in the urinary tract, two Richmond, Va., physicians state that "whatever natural immunity the Negro may have is certainly modified by his mode of living and the frequent occurrence of infection in the urinary tract."

Writing in the December 28 issue of *The Journal of the American Medical Association*, Austin I. Dodson, M.D., and John R. Clark, M.D., from the urological service of the Hospital Division of the Medical College of Virginia, say:

"The frequency with which we encounter calculi of the urinary tract on the wards of the Hospital Division of the Medical College of Virginia convinces us that although urolithiasis may occur less frequently in the Negro than in the white race, it is by no means uncommon. Furthermore, we have observed that stones in the Negro are more frequently accompanied with infection and are far more destructive to renal tissue than those in white patients. The fact that Negroes are more reluctant to seek medical aid and depend more on home remedies than do white people certainly contributes to some extent to higher morbidity and mortality as a result of stone. The same thing doubtless contributes to the fact that calculi are less frequently found among them."



During the 10-year period from 1935 until 1946 there were 2,724 white patients and 1,800 Negro patients admitted to the urological service of the hospital, according to Drs. Dodson and Clark. Of these, 637 white patients and 121 Negro patients had stones in the urinary tract.

The doctors point out that the treatment of Negroes varies considerably from that usually considered advisable for white patients. The percentage of kidney removals is extremely high. Of 62 Negro patients with stone in the kidney, 20 had the kidney removed, while only 26 of 190 white patients were treated with such radical measures. The authors explain this by stating that "because of the difficulty in getting these patients to return for adequate follow-up treatment, more radical surgery usually is required than is necessary in the white patient."

### THE COUNTRY DOCTOR

A toast to him so kind and grim,  
—To him who rode the lanes—  
With drugs and pills for all the ills  
And all the aches and pains.

He'd never poke a stethoscope  
Against the naked hide,  
Or bind the arm to find the harm  
That pressure does inside.

But somehow when he came and then  
Gave glance and thought to tongue,  
He sensed aright the trouble site  
—The liver, spleen or lung.

With saddle-bag—a trotting nag—  
He sped the roads a-wide  
To keep a soul and body whole  
Or ease the one who died.

To poor abodes on muddy roads  
Or rich ones on the pike,  
He went thru sleet, the rain and heat  
And doctored both alike.

When boy or girl to this old world  
The stork was bringing near,  
They sent him word, "Come help the bird  
Unload his cargo here."

He took his fees in corn and peas,  
Potatoes, shoat or calf,  
And even so his pay was low  
—He never got the half.

His kindly care kept many here  
When they were fair to leave,  
And when they died he watched beside  
And helped the family grieve.

His days are o'er, his like's no more.  
Today we go about  
To find high-tones to set our bones  
And cut our innards out.

If it be true we get our due  
Reward on Judgment Day,  
The brightest wings and harps and things  
Are saved for such as they.

—CHAS. F. HUNT.

### ANNOUNCE POSTGRADUATE COURSE IN RADIOLOGY

\* One hundred radiologists will be selected to attend the postgraduate courses in radiology to be conducted March 30 through April 4 in Philadelphia by the American College of Radiology. Preference will be given to radiologists who served in World War II. Second preference will be given to qualified applicants who were unable to obtain admission to last year's course in Philadelphia. The course is sponsored jointly by the

American College of Radiology and the Philadelphia Roentgen Ray Society.

Because of the popularity of the course given in Philadelphia last year, many radiologists were unable to be enrolled. Numerous requests for a second similar course have prompted the committee to sponsor it again this year.

There are two main considerations which have impelled the committee to undertake this program:

Although national and local scientific societies in the specialty of radiology have maintained a consistently high standard in their regular meetings, numerous inquiries have indicated an obvious need for intensive courses of a more academic nature. Also, veteran medical officers have been felt to be in need of an intensive review before returning to private practice. Many of these men were denied the opportunity for normal clinical practice or study which would keep them abreast of the rapid progress in the specialty of radiology.

Some of the subjects to be studied are: Certain neoplastic and inflammatory diseases, carcinoma of the head and neck, dosage calculation and tumor sensitivity in radiation therapy, carcinoma of the breast, blood and hemopoietic diseases, carcinoma of the genital and urinary tract, and benign and malignant diseases of the skin.

### ANNUAL PHYSICAL EXAMINATIONS NOT LIMITED TO REGULAR ARMY OFFICERS NEXT YEAR

With certain exceptions, all officers on active duty will be required to take the annual physical examination in 1947, the War Department announced recently.

This was revealed when Circular No. 347 dated November 26, 1946, was published. It includes AUS and Regular Army officers, nurses, warrant officers, and flight officers. Examinations will be completed during the first quarter of 1947 at any medical installation equipped to perform final type physical examinations.

Last year only Regular Army officers, including nurses and warrant officers, were required to undergo the examinations. This action is primarily aimed at detecting physical defects in individual instances so they may be corrected before hospitalization is necessary.

Although some discretion will be exercised in determining the fitness of officers for duty, no officer will be found fit for general service unless he is physically capable of performing duties ordinarily expected of an officer of his rank and experience any place in the world.

### THE SOCIAL WELFARE PHILOSOPHY

The social welfare philosophy or doctrine proposes that the *state should control* and direct more and more of the production and distribution of goods and services. In effect, this doctrine *denies the integrity of the individual* and places the responsibility for guiding the affairs of the individual on the state. The state can only force or coerce individual action to a fixed pattern which *eliminates the opportunity for creative action* and *individual responsibility*.

Rules and regulations established and enforced by the state should be designed to place responsibility properly, not take over the operation of our economy.

Compulsory sickness insurance schemes—such as envisaged in the Wagner-Murray-Dingell bill—have developed under this social welfare philosophy.

The state gets bigger and bigger. The individual, smaller and smaller.



## GEORGIA DEPARTMENT OF PUBLIC HEALTH

### RAPID TREATMENT OF SYPHILIS

Numerous schedules for the rapid treatment of syphilis have been advocated by many investigators during the past six years. Progressive and persistent research in this field has been responsible for increasing the safety factor in regard to the patient's welfare and for shortening the duration of treatment until, at the present time, the treatment of early syphilis is accomplished in 9 days and with a negligible amount of danger to the patient. The use of penicillin by medical science has made this possible.

In July 1943 the Piedmont Medical Center was opened at Augusta, Georgia, and in September of the same year the Southeastern Medical Center at Savannah, Georgia, began operations. Both of these centers were operated by the U. S. Public Health Service for the rapid treatment of venereal disease. During the period from August 1943 until June 1946, a total of 26,232 admissions were handled by these two medical centers. The first treatment schedule adopted in these centers for syphilis employed 5 weekly injections of mapharsen and 1 weekly injection of bismuth for 6 weeks. The period of treatment was shortened to 8 days with the introduction of sodium penicillin in 1944. The treatment schedule employed at this time was spoken of as "3-6-3" which means 8 injections of mapharsen, 600,000 units of penicillin, and 3 injections of bismuth.

Eagle states that a true synergism exists between penicillin and arsenic in their treponemicidal effect.

The latest refinement in penicillin research has been the introduction of the Romansky formula for penicillin in beeswax and oil. In this preparation 1 cc. contains 300,000 units of penicillin and necessitates only 1 injection per day, since the beeswax and oil retard the absorption of the penicillin by the body. This is a great improvement both from the standpoint of the patient who prefers a single injection to 8 or more injections each day, and of the more efficient time utilization of the doctors and nurses administering the treatment. In July 1945 the single injection treatment of gonorrhea with penicillin in beeswax and oil was inaugurated in the local health clinics of this State and has met with widespread success. The Alto Medical Center was opened in August 1946 primarily for the rapid treatment of syphilis and has adopted a treatment schedule employing penicillin in beeswax and oil to accomplish this purpose. To date there have been approximately 4,000 admissions to this medical center.

At the present time we feel the best rapid treatment schedule for primary, secondary, early latent, and late latent syphilis is the "5-27-3" nine-day outline using penicillin in beeswax and oil. For your convenience it is expressed below:

DRUG	Days Successive Treatment									Mode of Injection	Single Dosage
	1	2	3	4	5	6	7	8	9		
Penicillin-beeswax-oil.....	x	x	x	x	x	x	x	x	x	intramuscular	1 cc. 300,000 units
Mapharsen .....	x		x		x		x		x	intravenous	1 mg. per kilo of body wt.*
Bismuth.....		x		x				x		intramuscular	130 mg. per 150 lb. body wt.

x indicates injection.

\* the maximum single dosage is 60 mg mapharsen.

Due to the high reaction rate to this schedule, the "5-12-3" was adopted which decreased the number of mapharsen injections and doubled the amount of penicillin administered over a period of 9 days instead of 8 days. Later the "K" factor in penicillin was discovered and the schedule was changed to "5-18-3" wherein 1,800,000 units of penicillin were given. In these treatment outlines it was necessary to administer the sodium penicillin every 2 or 3 hours because of its rapid rate of excretion from the body. Other rapid treatment schedules have been employed in various parts of the nation using penicillin without reinforcement by mapharsen and bismuth. However, evaluation studies of these different treatment schedules have shown that mapharsen greatly enhances the efficiency of treatment by markedly reducing the number of relapses. Dr. Harry

All neurosyphilis may be treated by giving 400,000 units of penicillin in beeswax and oil intramuscularly, once a day for 15 days which makes a total dosage of 6,000,000 units of penicillin. No mapharsen or bismuth is given.

Pregnancies are treated preferably before the fifth month, according to the stage of disease, and it is our opinion that all subsequent pregnancies should be treated.

Treatment of congenital syphilis varies with the patient's age. Patients who have veins that will accept a needle may be given the same "5-27-3" schedule that is expressed above. Smaller children may be treated with straight penicillin in beeswax and oil for 9 days with a total dosage of 2,700,000 units of penicillin.

One cautioning note is sounded and emphasized in the treatment of syphilis by any rapid method; namely, that the rapid treatment of cardiovascular syphilis is extremely hazardous and death is very likely to occur as a result of this type of treatment.

Following completion of the treatment, patients should have a monthly blood test for at least 12 months, during which time the blood titer should normally show a steady decline approaching, but not always giving, a negative value. If at any time two consecutive blood tests show significant increases in titer, re-treatment is indicated in the absence of false positive reactions. Before treatment is started, it is advisable to make a complement fixation test of the spinal fluid. Patients who had a positive complement fixation test of their spinal fluid prior to treatment should have a repeat spinal fluid test made 3-6 months following treatment regardless of the blood titer at this time. A phenomenon that is often encountered following treatment is the so-called Wassermann-fast blood, wherein the patient's blood will give a positive test over a period of years but there is no evidence of any increase in the titer of the blood during this time.

During the past three years there have been approximately 31,000 admissions to rapid treatment facilities in Georgia. This is the highest state total for the entire country and could only have been accomplished through the use of penicillin. This energetic application of rapid treatment has made it possible for us to realize our first positive gains in the problems of controlling the spread of syphilis. We feel that the employment of penicillin by the medical profession will, without a doubt, make a significant contribution to this end.

C. D. BOWDOIN, M.D.,

*Director, Division of Preventable Diseases*

#### COST OF MEDICAL EDUCATION AT UNIVERSITY OF GEORGIA SCHOOL OF MEDICINE

Operation of the University of Georgia School of Medicine at Augusta cost \$1,355.03 per student during the fiscal year ending June 30, 1946, State Auditor B. E. Thrasher, Jr., reported recently.

The per capita cost of running this school was a subject of discussion at the last meeting of the State Board of Regents, and the board decided that it was not excessive. Regent W. S. Morris, of Augusta, pointed out that the annual cost per student at many medical colleges ran from \$3,000 to \$4,000 per year.

Total cost payments at the Augusta institution last year were \$337,402 compared to \$305,202 in 1945. The enrollment dropped from 282 in 1945 to 249 in 1946 because of the graduation of Army and Navy personnel.

The college collected \$94,287 from student fees, \$5,000 from the City of Augusta, and \$3,132 from endowments, rents and sales. Auxiliary enterprises brought in \$35,425. Chief expenditures were \$201,695 for instruction, \$48,998 for medical state aid, \$23,164 for administration and \$20,420 on the University Hospital.

#### NEW WATER-PURIFYING TABLET DEVELOPED BY ARMY

A new tablet for purifying water in the soldier's canteen which is considered superior to the chlorine-type tablets used during the war, has been announced by the War Department.

With iodine employed instead of chlorine, the new tablets make the drinking water less objectionable in taste and odor. Tests have shown that the iodine-containing tablet has greater sterilizing flexibility in that it can be used under a wide range of conditions. It is also more suitable and dissolves more quickly than its predecessor. This tablet was developed by scientists of the Army Medical Department, Quartermaster Corps and Corps of Engineers.

When the chlorine-containing tablets were dissolved in water, soldiers complained that they made the water unpleasant to the taste. It was found that even with strict supervision it was sometimes difficult to prohibit the soldiers from drinking water from streams or wells of questioned purity.

After examining a large number of different compounds, scientists found that triglycine hydroperiodide possessed the highest military characteristics. Quickly dissolving tablets containing this chemical which liberated seven and one-half parts per million of elemental iodine were subjected to extensive testing. It was found to be a safe and highly effective agent.

Additional tests of the new "tablet, water purification, individual, iodine," as the compound has been designated, will be carried out during the ensuing year.

#### ARE YOU GOING TO "BE THERE" AT ATLANTIC CITY JUNE 9-13, 1947?

Cups and medals are the rewards. Also \$34,000 in Savings Bonds for the Special Contest, "Courage and Devotion Beyond the Call of Duty" (in war and in peace).

The reward is also professional pride in the achievements of the medical profession in the field of fine art—and also what art can do for you personally—physically, mentally and spiritually. "Art is the best occupational therapy for physicians."

For further information, write: Harvey Agnew, M.D., President, A.P.A.A., 280 Bloor Street West, Toronto 5, Canada, or to F. H. Redewill, M.D., Secretary of the A.P.A.A., or to the sponsor, Mead Johnson & Co., Evansville 21, Indiana, U.S.A.

#### VETERANS

Veterans' Administration is operating 24 former Army and Navy hospitals to meet the growing need for hospital space.

Approximately 85 per cent of the veterans receiving self-employment allowances from Veterans Administration are farmers.

More than 900 veterans of the Indian Wars that ended 43 years ago were receiving Veterans' Administration pensions on September 30.

Veterans' Administration estimated the veteran population at nearly 17,900,000 on October 31, an increase of more than 150,000 over September 30.

Less than one-half of one per cent of all veterans' loans approved for guaranty by the Veterans' Administration were in default by the end of September.

Veterans' Administration cleared over 84,000 requests for physical examination during September for pensions or compensations, the highest total to date.



Over 63,000 World War II veterans are studying farming right on the farm under two Federal laws administered by Veterans Administration.

Veterans Administration is paying monthly pensions or compensation to nearly 120,000 veterans of the Spanish-American war under various Congressional acts.

Approximately 37 per cent of the 13,959,000 World War II veterans already have applied to Veterans Administration for vocational training or education under Federal laws.

Veterans Administration is operating 29 mental hygiene clinics and has contracts with 39 private clinics for the treatment of veterans in its preventive medicine program.

Almost a half-million veterans filed applications with Veterans Administration during the first 10 months of 1946 to convert their G.I. insurance to permanent policies.

The number of active cases in which veterans or their dependents are eligible to receive monthly benefit payments from Veterans Administration has increased during each of the past 43 months.

Contact Service of Veterans Administration is making about 2,000,000 personal contacts with veterans every month to give information, advice and assistance on Government benefits.

The American history of pensions or compensation for disabled veterans goes back to 1636 when the Plymouth Colony voted to provide for the care of the maimed.

The number of death claims for National Service Life Insurance received by Central Office of Veterans Administration during September declined to 3,599.

Sites have been selected for 63 of the 89 new hospitals that the Veterans' Administration is authorized to build in the world's largest hospital construction program.

Veterans' Administration homes for disabled or aged veterans had their origin in the National Asylum for Disabled Volunteer Soldiers established in 1865 at the end of the Civil War.

#### HEALTHGRAMS

To prevent errors in diagnosis, it should be a routine practice not to make a diagnosis of pneumonia, bronchitis, asthma, pleurisy, chest cold, catarrhal fever or grippé without first considering the possibility of tuberculosis. The symptoms and physical findings in these cases may be the same as those encountered in tuberculosis. To determine definitely the presence of tuberculosis an x-ray and sputum examination and occasionally a tuberculin test are requisite for all these patients. This would not be an impractical or uneconomical procedure, for the yield of active cases of tuberculosis would be considerable. I. D. Bobrowitz, M.D. and Ralph E. Dwork, M.D., *N. E. Jour. Med.*, Jan. 11, 1946.

If tuberculosis is to be eradicated, extensive collaborative research, firmly directed, adequately financed, and carried forward by the teamwork of many men, must be initiated in even larger measure. *Pub. Health Rep. Ed.*, April 5, 1946.

#### 14TH CENTURY MEDICAL MANUSCRIPT ACQUIRED

Now on display in the Reference Room of the Army Medical Library is a rare manuscript, probably the only one extant of three medical works by the great Italian physician of the 13th century, Taddeo Alderotti de Florentie, immortalized by Dante, and founder of the dialectical method in medicine. Written about 1375, and bound in three volumes, it contains 278 leaves in gothic characters in two columns, 62-64 lines to a page, with rubrication in red and blue. It is known to be the only manuscript example of Taddeo's works in the United States.

Castiglioni's *A History of Medicine* mentions Taddeo as among the first Bolognese physicians who gained great contemporary renown. He was regarded as the most illustrious physician of all Italy. It is possible that Dante, who studied at Bologna, attended his lectures. As a practitioner, he was much sought after and accumulated great wealth. He is known to have charged 3,000 crowns in one case, and before undertaking the treatment of Pope Honourous IV, who died under his care, he declared that he would not move for less than 100 ducats a day.

To Taddeo is owed a new form of medical literature, the so-called *Consilia*, that is, a collection of clinical cases. This literary form had considerable vogue up to the end of the 17th century.

#### GEORGIA MEETING OF AMERICAN COLLEGE OF SURGEONS AND FIFTH DISTRICT MEDICAL SOCIETY

On October 31, the first meeting of the Georgia members of the American College of Surgeons was held in Atlanta. The Georgia Chapter is made up of 178 fellows and 29 junior candidates, in addition to a number of military members. Over 150 members attended the meeting.

During the day operative clinics were presented in all the Atlanta hospitals, followed by clinical talks and demonstrations at Grady Hospital. Dr. Frank H. Lahey, of Boston, was the guest speaker and presented a thyroid clinic to a large audience.

In the evening a joint session with the Fifth District Medical Society was held at the Academy of Medicine. A buffet dinner was served by the Woman's Auxiliary of the Fifth District. Mrs. B. L. Shackleford, president of the Auxiliary, and Mrs. George W. Fuller, chairman of the Dinner Committee, were in charge, and 500 guests were served. Dr. J. W. Simmons, of Brunswick, gave a barrel of shrimp for the occasion.

Dr. Lahey again talked to the group at the evening session, discussing "The Management of Lesions of the Stomach, Duodenum and Jejunum." Dr. Eugene Stead, of Emory University, also presented a paper on "Congestive Heart Failure." Dr. Ralph H. Chaney, of Augusta, president of the Medical Association of Georgia, discussed the affairs of the Association.

A business report was given by the secretary-treasurer of the Fifth District Society, who announced that 464 members had paid dues for 1946 and the society was solvent.

Dr. Vernon E. Powell, of Atlanta, was elected president, and Dr. C. Dixon Fowler, of Atlanta, vice-president, for the Fifth District Medical Society for 1947.

The meeting was a great success and a similar meeting will be held each year, so say the surgeons.



ATTENTION, DOCTORS! MAR 22 1948

## NEWS ITEMS

Have you sent in your schedule for the pediatric survey? Each physician in the State who has not returned his questionnaire recently has been sent a reminder. This survey is being done by doctors for doctors. The information obtained will be used in planning our program of action for the future. Do your part in fighting socialized medicine—cooperate with the programs of your recognized medical societies. Send in your questionnaire today.

For those who do not remember what the survey is:

The American Academy of Pediatrics has undertaken a nationwide study of child health services, in the belief that pediatricians and physicians share responsibility in planning the future medical care of children.

In order to fulfill this responsibility, the Academy has committed itself to the task of determining the facts concerning the extent and availability of existing facilities for the medical and health care of children and to find out just how many children are reached by these facilities.

Data for the study are being collected on a state basis by means of personal visits and carefully prepared questionnaires designed to obtain the necessary information with a minimum of effort on the part of those asked to supply it.

The work in the State of Georgia is under the supervision of Dr. W. W. Anderson, Atlanta, chairman, and Dr. Martha Burke Strickland, executive secretary. Each hospital, dentist, public health and volunteer health service, general physician, and pediatrician in the State is being contacted for information. The individual information collected will be kept confidential. Only the final over-all, tabulated, impersonal statistics will be made available for public use.

In answer to the often raised query, "Why should I bother if I don't treat children?" The questionnaire, though dealing mainly with children, is so designed that information obtained will be valuable to the AMA as well as to the pediatric program. Also, you will notice the statement "... and the extent to which children are reached by these facilities." It is important to know what per cent of the total patient load is made up of children. In some areas a doctor may carry a very heavy patient load, therefore he is able to see only emergency children's cases; this overload is so great that prophylactic care is out of the question. It is just such facts that we are trying to find out.

So far, three states have completed their surveys. Each has reported excellent cooperation from the physicians and dentists and a very high per cent of returns. We would like for Georgia's report to compare favorably.

MARTHA BURKE STRICKLAND, M.D.

## THE GASTROINTESTINAL CLINIC

The Gastrointestinal Clinic of the University of Georgia School of Medicine, Augusta, Georgia, regrets to inform the doctors of Georgia that starting on December 1st, 1946, the clinic will restrict its services to charity cases. The plan to be followed is that the doctor will refer the patient with the gastrointestinal complaint to the county welfare department where the patient will be certified as being indigent. The welfare office will then write to the clinic for an appointment for the patient. The patient will then be mailed an appointment card giving him instructions as to what to do prior to coming to the clinic and the exact time when he is to appear. The patient will bring the certificate of indigency with him to the clinic. As has been the custom in the past, a report will be sent to the physician when the case is completed.

The Medical Association of Georgia will hold its next annual meeting at the Bon Air Hotel, Augusta, April 22-25, 1947.

The Bibb County Medical Society held its meeting at Bidley Hall, Macon, December 3. Annual business meeting and election of officers.

\* \* \*

The Baldwin County Medical Society held its meeting in simultaneous session with the Woman's Auxiliary at the Indian Island Club, Milledgeville, December 19. Meeting was called to order by President Z. S. Sikes. Members present were: Drs. L. E. Pennington, Veronica Murphy Pennington, T. C. Clodfelter, Charles B. Fulghum, Y. H. Yarbrough, J. I. Garrard, E. W. Allen, W. A. Sikes, F. B. Mitchell, Jr., and J. D. Combs. Minutes of the last meeting were read and approved. Dr. Fulghum reported the Bibb County Medical Society is tentatively planning to entertain the Sixth District Medical Society each quarter, at which time clinical material will be presented. The Baldwin County Medical Society was also invited to attend the regular bi-monthly meetings of the Bibb County Medical Society. Dues were set for \$12.50 per year. Election of the following officers: President, Dr. L. E. Pennington; Vice-President, Dr. E. W. Allen; Secretary-Treasurer, Dr. W. A. Sikes; Delegate, Dr. Z. S. Sikes; Alternate Delegate, Dr. Dawson Allen; Censor, Dr. Y. H. Yarbrough.

\* \* \*

Dr. J. B. Crawford, formerly of Colquitt, recently opened offices in the Reeves Building, Barnesville, for the practice of medicine.

\* \* \*

Dr. A. G. Bell, Wrightsville, was recently named by Veterans Administration officials as VA physician for Johnson County. In this capacity, Dr. Bell handles all medical care for veterans with service-connected disabilities. Cost of this service for veterans is borne by the Veterans Administration—either for treatment by Dr. Bell or for treatment at a Veterans Hospital when local medical care is not sufficient.

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Dr. William Howard Benson, Marietta, recently released from the Army Medical Corps, announces the opening of his offices for the practice of internal medicine in the Richardson Building, 213 Cherokee Street, Marietta.

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Dr. Everett L. Bishop, Atlanta, was elected a member of the board of governors of the College of American Pathologists at the organization meeting at Chicago last December.

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The Crawford W. Long Memorial Hospital staff dinner meeting was held in the hospital dining room, Atlanta, December 12. Program: "Herniated Discs in the Cervical Region as a Common Cause of Brachial Neuritis", with case discussions, Dr. Exum Walker. Case report and discussion of "Subleukemic Reticulo-endotheliosis", Dr. Scott Tarplee.

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Dr. Abe J. Davis, Augusta, Richmond County health commissioner, was guest speaker at the luncheon meeting of the Woman's Auxiliary of the Richmond County Medical Society at the Sheraton Bon Air Hotel, December 2. Mrs. Perry Volpito is president of the auxiliary and Mrs. John Persall is program chairman.

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Dr. Morris Fulton, a native of Scotland, who left this country to join the British armed forces as soon as England entered World War II, has returned to Milledgeville and has joined the medical staff of the Milledgeville State Hospital, Milledgeville.

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The Fulton County Medical Society held its dinner meeting at the Academy of Medicine, Atlanta, December 5. Program: Case Report from Grady Hospital, "Meig's Syndrome", Dr. Marion T. Benson, Jr. Clinical Talk, "Narcobypnosis in Medical Practice", Dr. J. K. Fancher and Dr. Harry R. Lipton. Paper, "Bronchography—Its Technic and Clinical Application", Dr. Wm. W. Bryan.

Program, December 19: Election of officers, reading of annual reports, and President's Annual Message—Dr. Thos. P. Goodwyn.

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The Georgia Baptist Hospital staff dinner meeting was held in the dining room of the Nurses' Home, December 17. Dr. Chas. E. Rushin, secretary, announced a matter of much importance to all staff members was discussed.

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Dr. J. F. Hackney, Atlanta, director of the City Health Department, celebrated his birthday happily as the result of activity by employes of his department, who surprised their chief with a birthday party and a combination pen and pencil set.

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Dr. Charles W. Hock, Augusta, who has recently returned from the University of Chicago clinics, after a year's leave of absence from the University of Georgia School of Medicine, announces the opening of his office at the University Hospital, Augusta, for the practice of gastroenterology. While in Chicago, Dr. Hock was assistant to Dr. Walter L. Palmer, one of the foremost authorities in gastroenterology.

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Dr. Michael Hoke, Atlanta and Warm Springs, for many years beloved chief surgeon at the Foundation, Warm Springs, has been memorialized for his work with afflicted and underprivileged children through the Scottish Rite Hospital, Atlanta. A bronze tablet on a stone marker was unveiled at the Atlanta institution recently in memory of Dr. Hoke who "healed the afflicted child of the pauper with the same skill and quiet zeal as the stricken president of our country". Dr. Hoke established the Scottish Rite Hospital in 1915. In the past 31 years, 9,000 crippled children of Georgia have been treated. At the exercises, Dr. Hoke was described as follows: "He devoted his whole life to the cause of suffering humanity. He made lame little children stand erect. . . . None ever has paid for medical, hospital, or nurses' care here. None was able to pay".

\* \* \*

Dr. A. Leon Holloman, Savannah, who during the war served as a surgeon with the U. S. Coast Guard and Navy on ships in and around Africa, Sicily, Italy, England, and France, where he saw considerable action, announces the opening of his office suite at 119 East Jones Street, Savannah, for the practice of surgery and medicine.

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Dr. Henry M. Lee and Dr. J. F. Johnson, Hamilton, announce their association for the practice of medicine at Hamilton.

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Dr. Leonard Lesser, formerly of Rome, who was director of the State Center for Venereal Diseases at Alto, has resigned his position to enter private practice. He plans to take refresher courses at Tulane University, Duke University and the University of Chicago, before opening an office in Atlanta.

\* \* \*

Dr. Robert Major, Augusta, professor of Thoracic Surgery at the University of Georgia School of Medicine, was recently guest speaker at the monthly dinner meeting of the Sumter County Medical Society, Americus. Dr. Major, a noted authority in his field, addressed the society on "Chest Surgery". In addition to the members of the Sumter County Medical Society, approximately twenty physicians from Albany, Cuthbert, Montezuma, Dawson, Lumpkin, and surrounding territories were present to hear the speaker.

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Dr. Robert E. McClure, Atlanta, announces the removal of his office from 478 Peachtree Street to 267 East Paces Ferry Road, Atlanta (Buckhead), for the practice of medicine.

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The Richmond County Medical Society held its meeting at the Dugas Auditorium, Augusta, December 5.

Dr. Perry P. Volpito is program chairman. Dr. E. H. Ryncarson, of the Mayo Foundation, Rochester, Minn., was guest speaker. His subject was, "Many Questions and a Few Answers Regarding the Endocrine Glands". Medical students and physicians of neighboring counties, as well as members of the medical staffs of nearby military posts, were present.

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The Sixth District Medical Society of the Medical Association of Georgia held its winter meeting at Ridley Hall, Macon, December 5. Scientific program: "Treatment of Thrombophlebitis", Dr. C. H. Richardson, Jr., Macon; "Convulsive Disorders in Children", Dr. Edwin Watson, Macon; "The Reversibility of Heart Disease", Dr. H. C. Atkinson, Macon; "Infectious Mononucleosis", Dr. M. M. Harris, Macon. Official remarks by officers of the Medical Association of Georgia; President, Dr. Ralph Chaney, Augusta, and President-elect, Dr. Steve P. Kenyon, Dawson. Officers: President, Dr. James A. Fountain, Macon; Vice-President, Dr. Charles Fulghum, Milledgeville; Secretary-Treasurer, Dr. A. M. Phillips, Macon.

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Dr. Eugene Stead, formerly dean of the Emory University School of Medicine, has become a member of the faculty of Duke University School of Medicine, Durham, N. C.

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Dr. Henry E. Steadman, Hapeville, is now associated with Dr. W. Frank Wells, with offices in the Hapeville Doctors Building and Medical Arts Building, Atlanta, for the practice of surgery and medicine.

\* \* \*

Dr. J. M. Wilson, Columbus, was recently named head of the permanent staff of the Nazarene Hospital, Columbus, at an organizational meeting attended by 16 staff members at the Ralston Hotel.

\* \* \*

Dr. Lawrence F. Woolley, Atlanta, professor of Neuropsychiatry at Emory University School of Medicine, has been named a consultant of the Veterans Administration program of neuropsychiatric care in five South-eastern states, the Veterans Administration announced recently.

\* \* \*

The American College of Surgeons at the convocation held December 20, during the Clinical Congress in Cleveland, Ohio, received the following Georgia surgeons into fellowship; Dr. Miles S. Crowder, Columbus; Dr. Chester A. Fort, Jr., Atlanta; Dr. T. Schley Gatewood, Americus; and Dr. Virgil D. Shepard, Atlanta.

\* \* \*

Dr. J. C. Blalock, Atlanta, for 17 years physician to the Fulton County coroner, announced his resignation effective January 1. Dr. Blalock will devote his full time to private practice of surgery and medicine.

\* \* \*

The Fulton County Medical Society in a recent election of new officers named Dr. Walter W. Daniel, president-elect, to take office in 1948. Other officers elected are: Dr. Fred F. Rudder, vice-president; Dr. McClaren Johnson, secretary-treasurer, and Dr. Hal M. Davison, board of trustees. The new president is Dr. Hugh Wood.

\* \* \*

Dr. Thomas J. Floyd, Griffin, has been elected president of the Strickland Memorial Hospital staff for the coming year. Other officers are: Dr. F. H. Wilson, vice-president, and Dr. Anne Stuckey, secretary. Members of the executive committee are Dr. Thomas J. Floyd, Dr. H. J. Copeland, Dr. K. S. Hunt, Dr. George L. Walker, and Dr. Anne Stuckey.

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The Muscogee County Medical Society held its annual election of officers at the Ralston Hotel, Columbus, November 26. Officers are Dr. Arthur N. Berry, president; Dr. F. E. Edwards, vice-president; Dr. Clarence Butler, secretary-treasurer, and Dr. Frank B. Schley, Dr.



Dave Berman and Dr. J. L. Stapleton, board of censors. Dr. J. E. Walker and Dr. W. P. Jordan were elected delegates to the annual session of the Medical Association of Georgia, Bon Air Hotel, Augusta, April 22-25, 1947. Members heard the Blue Cross plan committee report that the City Hospital has rejected the Blue Cross program, and that the Nazarene Hospital has expressed a desire to cooperate in the plan with assistance. Following its report the committee, composed of Dr. Leon Lapides, Dr. J. H. McDuffie and Dr. W. P. Jordan, was asked to continue its work for another year. The program was centered around reports on various cases by three local pediatricians—Dr. Mercer Blanchard, Dr. W. C. Cook and Dr. Frank B. Schley.

\* \* \*

Dr. C. F. Holton, Savannah, chief surgeon of the Central of Georgia Railway Hospital, recently announced the appointment of Dr. George W. Straight, resident surgeon, and Dr. Charles L. Prince, urologist.

\* \* \*

Dr. Edwin W. Turner, East Point, recently released from the U. S. Army, after serving as a flight surgeon with the Air Forces, announces the opening of his office on the second floor of the East Point Pharmacy Building, East Point, for the practice of medicine.

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Dr. J. R. Lewis, Canton, who has been connected with Coker's Hospital for several months, has gone to Detroit, Mich., where he will study plastic surgery at Straith Clinic. Dr. Lewis plans to attend this institute for two years, after which time he will return to Georgia to practice plastic surgery.

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The Fulton County Medical Society held its dinner meeting at the Academy of Medicine, Atlanta, November 7. Program: Clinical Talk: "Morton's Toe", Dr. J. H. Kite; Papers: "Ligation of the Inferior Vena Cava in Thromboembolism", Dr. Ben Robert Thebaut and Dr. Chas. S. Ward; "Venographic Studies following Ligation of the Inferior Vena Cava", Dr. H. S. Weens and Dr. J. V. Warren.

\* \* \*

Dr. Council H. Maxwell, Calvary physician, was signally honored on October 13, his 70th birthday and the completion of 45 years of outstanding service as a "country doctor", by the people of Calvary community.

\* \* \*

Dr. Milton Mazo, Savannah, having just completed post-graduate work at the Children's Memorial and Michael Reese hospitals, Chicago, having served 45 months in the U. S. Army Medical Corps, serving more than two years overseas with the 67th Station Hospital at Accra, on the Gold Coast of Africa, has resumed his practice of pediatrics at 8 East Taylor St., Savannah.

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Dr. C. C. Aven, Atlanta physician, recently lectured at the nurses' tuberculosis course, sponsored by the Chatham-Savannah Tuberculosis Association, the Warren A. Candler and St. Joseph's Hospitals, Savannah. Dr. Aven discussed the organism that causes tuberculosis and what is known regarding the disease and how the germ invades the body. Dr. Robert C. Major, Augusta, from the Department of Thoracic Surgery, University of Georgia School of Medicine, discussed "General Principles of Treatment". Dr. Rufus F. Payne, Rome, superintendent of Battey State Hospital, spoke on "Stages of Tuberculosis".

\* \* \*

Dr. James W. Polk, a native of Troy, Tenn., recently released from military service, having served for two and one-half years, announces his association with Dr. H. B. Jenkins and Dr. Harry Baxley for the practice of medicine and surgery at Donalsonville Hospital, Donalsonville.

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Dr. Charles S. Jones, Atlanta, announces the opening of his office for the practice of surgery, Medical Arts Building, Atlanta.

## OBITUARY

*Dr. Aljonso John Mooney, Sr.*, aged 71, dean of Southeast Georgia physicians and a leading Statesboro citizen, died at a Savannah hospital December 12, 1946. Dr. Mooney was born at Tayles Creek in Liberty County, the son of the late Horace Mooney and Olive Hotchkiss Mooney. He graduated from Emory University School of Medicine, Atlanta, in 1898.

Dr. Mooney was widely known throughout the State and served the community of Statesboro for 50 years as a physician, and as a civic and church leader. He was past president of the Chamber of Commerce and Rotary Club, past master of the Ogeechee Lodge F. & A. M., former chairman of the board of deacons of the First Baptist Church, and a veteran Sunday School teacher. He was a captain in the Medical Corps of World War I, and for 40 years was on the surgical staff of the Central of Georgia Railway. He was a member of the Bulloch-Candler-Evans Counties Medical Society, the Medical Association of Georgia, and a fellow of the American Medical Association. He served as chairman of the Memorial Exercises Committee of the Medical Association of Georgia for several years, and was chairman at the time of his death. He is survived by his wife, two daughters, Mrs. Bert Riggs, Statesboro, and Mrs. Tupper Saussy, Jr., Tampa, Fla.; one son, Dr. John Mooney, Jr., Statesboro; one brother, Ben S. Mooney, Statesboro, and three grandchildren. Funeral services were held at the First Baptist Church. Forming an honorary escort were members of the Bulloch-Candler-Evans Medical Society, members of the Rotary Club, a number of physicians from throughout the State and a large group of leading local citizens. Burial was in the East Side Cemetery, Statesboro.

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*Dr. Frederick M. Mullino*, aged 79, practicing physician in Montezuma for half a century, died at Macon County Clinic following injuries which he suffered when thrown from a car in front of his home, December 12, 1946. Dr. Mullino was a native of Cumming and was graduated from Southern Medical College, now Emory University School of Medicine, Atlanta, in 1892, going to Montezuma to make his home in 1893. In later years he studied at Tulane, Johns Hopkins, and Mayo's. He was a recognized leader in his profession. Dr. Mullino was active in all civic and religious affairs of his community. He was a charter member and past president of the Kiwanis Club, a past director of the Citizens National Bank, member of the board of stewards of the First Methodist Church for 40 years, and chairman of that body for 20 years. He was twice married. Of his first marriage to Miss Clara Edge, Macon, two children survive, Mrs. Russell Newton, Danville, Va., and Fred Mullino, Santa Monica, Calif. In 1905 he was married to Miss Mary Addie Rumph of Marshallville, who survive him. There were two children from this marriage, Mrs. Thomas S. Clason and John Howard Mullino of Columbus. Five grandchildren also survive. Funeral services were held at the First Methodist Church with the Rev. John S. Lough officiating. Forming an honorary escort were the board of stewards of the First Methodist Church, Montezuma.

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*Dr. Dennis J. Borders*, aged 74, prominent retired physician of Gordon County, died at his home in Red Bud, November 4, 1946. He graduated from Emory University School of Medicine, Atlanta, in 1895. Dr. Borders was a practicing physician in Gordon County for 51 years. During this time he did much to relieve the suffering of humanity, regardless of race, rich or poor, day or night, in every kind of weather. He gave much of his time and talent to charity. He is survived by his wife, Mrs. Emma Stewart Borders; three daughters, Mrs. Aubrey Bentley, Mrs. P. F. Bentley and Miss Alice Pearl Borders; one son, Jesse Borders, all of Red Bud. Funeral services were held from Mt. Rutland Church, with the Rev. Clyde Blackstock officiating. Burial at Red Bud.



# *THE JOURNAL* OF THE *MEDICAL ASSOCIATION OF GEORGIA*

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## OUR BATTLE FOR FREEDOM

HARRISON H. SHOULDERS, M.D.  
*Nashville, Tenn.*

First, I should like to express to you my appreciation for the high compliment implied in your kind invitation to come down here, and I should like especially to thank Dr. C. W. Roberts for that lovely introduction.

I was told that I would be talking tonight to the lay citizens of this city, and my remarks shall be directed to them. It may seem in part elementary to the medical members of the audience, but I have no apology to offer for that. It has seemed to me that the decision that is to be made with respect to medical problems will be made by lay people, probably upon the advice of doctors, maybe not entirely so, but I think the lay people of the country are entitled to a thorough understanding of the question.

Now, it seems to me, for lay people to form an understanding of the question, they must first, before they can make a decision, understand something of what medicine actually is, because I think they have been misled to some extent. Medicine is not what many people think. It is not just one thing. Medicine, itself, is three things: First, there is a science of medicine; second, there is an art of medicine; and third, I insist there is a soul to medicine.

The science of medicine is not one single science. It is rather a portion of many sciences. For example, it is a portion of the science of chemistry, it is a portion of

the science of biology, it is a portion of the science of pathology, etc. It is that portion of the several sciences which are related to the diagnosis, to the prevention and to the treatment of disease.

The art of medicine is still another thing. It is the art and skill by which these sciences are made effective in the prevention and treatment and relief of disease. It is an individual accomplishment of a person. It is as individual as the art and skill of playing a piano, or painting a picture.

Finally, there is the soul of medicine. I should like to go into a more elaborate definition. No one understands or can define the soul, except we do know that it is recognized as the highest attribute of human nature. It is the idealism, the integrity, the interest, the humanitarianism of medicine. Briefly, that is what is meant by the soul of medicine. It is the element in medicine that determines the attitude of doctors, not only towards the science and art, but towards each other and towards the public. It is that.

What is the attitude of doctors towards the science and art of medicine? It is said that when Abraham Lincoln died a member of his cabinet walked from the room and said, "Abraham Lincoln now belongs to the ages." I know no other expression that defines medicine. Do we have a monopoly? Not on your life. Too many people, too many ages, too many nations have made contributions to the science and art of medicine for the profession to lay claim to its ownership. The relationship of doctors to the science and art of medicine is that of a trustee, and a trustee is a person who takes something of value and preserves it for the

benefit of others. Now this trusteeship of medicine began before the time of Christ. In the time of Hippocrates many of the old philosophers of that period were doctors. They probably didn't know so much science, but they did know their human natures, and human nature hasn't changed very much so far as anybody can prove. That defines to you something of the attitude of doctors towards the science and art of medicine.

Their attitude towards the public, then? Was it an attitude of monopoly? Not on your life. The attitude of doctors was. I should say, in a series of principles which cover a code of ethics. First, an obligation, not only that we owe the public—it was recognized in it that advancements had been made, already made, but that they were made in the interest of the public, not primarily in the interest of the doctor. For instance, there was a code of principles which prohibits doctors from obtaining patents on new procedures. When advancement in the science of medicine or art of medicine has been made, that becomes a part of the profession and that doctor owes that obligation. That obligation is assumed willingly. No doctor is ever paid anything for having made a startling advancement in the science or art of medicine. Next, we assume an obligation to the indigent, which is in the form of charity service to the indigent. We assumed another obligation, that we serve the lower income brackets in the proportion to their ability to pay rather than for service rendered. There has been no such thing as fixed fees. Then further, we assumed the attitude that we owe it to patient to keep his secrets. Divulgence of secrets may do a patient more harm than the illness from which he suffers. It is that sort of philosophy of medicine, that sort of attitude towards the public that has grown up in this freedom.

I was interested some days ago to run

across a book written by Mr. White and Mr. Leach, "People Speak to People." The late Mr. William Allen White was made a member of the American Society for Newspaper Editors and they started out, if they could, to work out some system of ethics in that organization. Stop and think. They began, and Mr. William White reported this, "I have no idea of what the ethics of this business is." There is now some sort of demand that there be fundamental, ethical soundness in the newspaper profession and its attitude towards the public with reference to truth, etc.

Now, that gives you briefly something of the attitude of doctors towards, first, the science and art of medicine, and second, something of the attitude of doctors in this trusteeship of doctors to the public.

Now the quality of your medical care will be determined by several factors, not just one. It will be determined by these—first, the science possessed by the doctor in this case; second, his skill and judgment; and third, his soul. All those are a part of him when he enters the sick room. Next, by your confidence in him and your willingness to cooperate with him. Do you get those five factors that enter intimately into this matter of medical care?

It must become apparent at once that the pseudo economist who has assumed that he can treat the matter of medical care on the same basis that he treats electric current, shoes, food or houses, is utterly ridiculous in his reasoning. The person who comes to the home to check the current that has been used probably does not even enter the house and, furthermore, he does not need to know more than how to read the hands on the meter. Next is that the production and cost of production can be computed with accuracy. The same is true of potatoes, and other foods. Their weight can be made, their vitamin content, their food value all

can be made in just that fashion for the people. Their value, cost of production and all can be determined, but what economist can measure the value to a community of a doctor with scientific training, a doctor with skill and knowledge and culture, and a doctor with the soul of medicine when he comes into your home? So, then, the people who have assumed that they can treat this matter of medical care as if it were potatoes, electric current, etc.—by the way, those examples were offered to the people in my home state by the Tennessee Valley Authority—that someone can take over and distribute medical care on the same basis as electric current are wrong. Medical care is too personal.

There has grown up in this country what we regard as a system of medical care. It has grown up in freedom. I don't speak of freedom of doctors, not at all. The primary freedom that exists is the freedom of the patient. No patient is compelled to accept the advice of a doctor. No patient is compelled to take a doctor's science. The patient is the boss. The patient in the home is still the master of his house as to who comes in the home and on what basis he comes. It is the freedom of the patient primarily and, on the other hand, freedom of the doctors, both freedoms. What has been the result of this system that has been going on in this country? By the way, it has been evolved not by the doctors alone but by the cooperative efforts of the public—lay people and doctors. Lay people have contributed and made possible the construction of hospitals and other medical facilities, but it has been on a cooperative basis—doctors and the public, and the result of voluntary cooperation. From this freedom there has evolved the greatest system of medical care that exists anywhere in the world today, proven by the results. I submit that there is no other accurate index to the results

except mortality rate and longevity. The death rate in the United States has been reduced to 10.4 per 100,000. In no other country comparable in size and in population does so low a rate exist. Longevity increased from 34 years in 1879 to 65 years in 1945. As a matter of fact, longevity is beginning to worry some of the people responsible for organizing old age insurance, because people are going to outlive their expectations and calculations. That is actually happening already. They are living so much longer than was expected. That doesn't exist so far as anybody knows in any other country of like size and population.

Now I should like to leave with you this impression. There has been an effort to portray the medical profession as anti-social in this country—a greedy, selfish, monopolistic group. As a matter of fact, the medical profession is a welfare organization. You can't find rules of conduct drawn by any other group of people comparable to those that are written to govern the medical profession. No other rules observe greater fidelity, not even the Ten Commandments, than the members of the medical profession of Georgia and the United States, the rules of conduct written as I have referred to.

Another thought I would like to leave at this moment. The medical profession is a welfare organization. It is not a business at all. It made itself social by the very acts I have referred to. Medicine socialized itself. It is not a business. It is not for profit primarily. It is not patented. In its freedom it has assumed obligations, all of them that go with freedom. We haven't time, of course, to proclaim these virtues. There has been a little modesty about it, but probably we would have been better off today if we had done a little more talking about it.



I should like to leave another thought with you. Did you know that the Declaration of Independence was the result of a welfare movement? The Declaration of Independence was the result of a welfare movement, and was so stated by the leaders of the time. That Declaration of Independence also defines, in its first paragraph, Americanism. You see that referred to now and then. I don't know if there is a loose definition that is growing up.

"We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty, and the pursuit of Happiness. That to secure these rights, Governments are instituted among Men, deriving their just powers from the consent of the governed . . ." A war was fought to establish that philosophy. A Constitution was written and adopted to make it secure. It is the only definition of Americanism that exists, because there is no other similar philosophy of government. No such relationship of government to citizens existed anywhere on earth, nor does such a conception exist today. We must never forget that.

This system, then, is threatened, and all the freedoms connected with it. The first of these proposals came about on the basis of various institutions. It was finally made on the basis of the list of rejectees for the service of the United States Army and Navy. That was largely the basis. Think of that for just a moment. That was an examination not to determine the vitality of the people but to determine the fitness of an individual for military service, a very arduous service. For instance, at the beginning of the operation of selective service a person who required specs was rejected. People with a certain degree of illiteracy were rejected. All fell in the medical group. That was seized upon as an evidence of two things—first, it was evidence of degeneracy

or inadequate medical care. There are a lot of things they never did tell you at that time. They never analyzed the people. It was a half truth. There was genuine deception in that way. It was a half truth because it left an implication that if some superior power had had complete direction of medical care that there would have been a small number of rejectees, which isn't true. Finally, at a later time it was stated these defects—the completion of the analysis hasn't yet been made, but sufficient analysis has been made to show that probably around one sixth of all rejectees have correctible defects—could be amenable to correction on any basis. The next question that arose—would the individuals accept correction? They tried that out under Selective Service. You didn't read much about it, but it was done. A small number accepted it, reluctantly. They abandoned it. In World War I they were taken into the Army with correctible defects, and compelled correction. That was abandoned too.

We might as well project our thinking on an entirely different basis, then. We'd better stick to the record of fifty or one hundred years, and that is the record of the medical profession in this country. Some encouraging things began to happen. Some stories appeared in regard to deferment for 4-Fs. The next thing we heard, the 4-Fs were playing on football teams in Southern California, one from Nashville and the other from Birmingham, both 4-Fs. We began to say something is wrong with this 4-F business—they are not suitable for military service but nothing connected with that carried disability or affected longevity. There was an entirely new interpretation of the list of rejectees.

Briefly, there is a bill pending in Congress on which hearings are being conducted—the Wagner-Murray-Dingell bill. It has three parts, the latter 30 pages, on social health insurance. The fact is you can

read the bill as many times as you want to—and I do plead with you to read that bill before you write your Congressmen, get your interpretation of its meaning and significance and get this thought—it took 30 pages to write it down. It provides for the federal government to take over as a matter of federal patronage the matter of the system of medical education and medical care for about 110,000,000 people of the United States. Does it become a matter of federal taxation? The first funds taken in are in the form of taxes in one form or another. Even the method of taxation hasn't been determined yet. What are they going to do with it? Turn it over to the Surgeon General. He, in turn, makes contracts with each doctor, each nurse, each hospital. Think for a moment of the number of employees. He makes the contracts. Doctors, nurses, hospitals and all accept the terms of the contract or else they don't work. Where does the soul of medicine come into that? Where would the ethics of medicine come in? The Surgeon General will be empowered to limit the number of patients anyone can contract for. There will be equal distribution of patients among the doctors in existence, probably fair employment practice compelling people to accept the next choice and next choice and probably the third choice, because you have got to have fair employment as we would all become, of course, on a contract relationship with the government. Next, he would have the power to limit the amount of service you would get. He would have the power also to place fees. Read it to see if every one of those statements are not true. Yet, they call it insurance. There was deception in that. All insurance is a contractual relationship between the insured and the insurer. In your fire insurance, you have a contract. Someone issues the contract. It stipulates the premiums you pay. This is a matter of taxa-

tion. The money is turned over to an assigning bureau, who, with a few advisers, determine the policies. They contract for the services, interpose them. They stand between you and your medical care. That is the answer now.

The next thought I'd like to leave with you—it has been roughly estimated—nobody knows how many—probably 500,000 people will be required to administer it. The Surgeon General will have the authority to delegate power to administrators here, there and all over the country. It reminds you of the sort of system that existed when the same department wrote the legislation under the welfare group that operated some years ago. They provided some benefits in indigent medical care but said this, that they would have to have control of it to prevent abuses. Here is what they did. They said a person who needs care must first apply to the local administrator. Then the application was sent to the case worker. The case worker would go to the home to determine whether medical care was needed. If the case worker found that care was needed, then they went back and authorized the doctor to make two calls. That was the system and he made the two calls until the doctors finally went and did it for nothing rather than have a row about it. I mention that because it merely indicates to you something—if you don't know before you vest the power in a federal bureau to make regulations, employ personnel and make contracts, you don't know what the terms will be once you have granted the power.

Now then, what would be the effect? I insist its effect would be the destruction of freedom, impairment of all the qualities in medical care that have been so effective in this country, not alone freedom in medical care but another implication—a professor of political economy at Harvard a few years ago stated that a number of tax lead-

ers finally assume a sort of vested right in a job and they give up with great reluctance. Finally, when we pass a certain number, and we are approaching that number, when we have a certain number of government employees, they take over. As a matter of fact, I quote from Mr. Lenin, who said, "We must establish communism in this country by degrees and not have revolution," and that is, in general, the pattern involved in this. Finally, I should like to point out that it could be possible that not alone medical treatment is involved in this, but a genuine threat to all of us, when you begin to think of the ultimate implications.

Finally, I would like to say this. Some of these people refer to themselves as Good Samaritans. I would like to leave with you the thought that if you go back and read the story again you will find that the Good Samaritan spent his own money. He was not a fellow who stood on the house top and told everybody else what ought to be done. The Pharisee got a just rebuke of the Great Physician. The Good Samaritan doesn't preach so much about the business but does it with his own effort and his own money. That is the Good Samaritan. The issue before the American people is not welfare. No, we are a welfare organization and have contributed more to the welfare of this nation than any other single group of people. The issue is shall the patients and doctors retain their freedom of judgment in this matter of medical care or shall this freedom be surrendered to a federal bureaucracy?

Some years ago Mr. Anderson wrote a book about Valley Forge. In that book he drew a picture of what happened at Valley Forge. The soldiers were hungry, naked and cold. A number who fought the fight probably thought they would never win, and they had a meeting. General Washington listened to their discussion with all the force

and character he must have possessed and finally sent them all back to their posts of duty determined to carry on. Cold as they were, and hungry, he gave them courage to fight on. They left him in this barn and he soliloquized, "Liberty may seem cheap by and by when nobody dies to get it."

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## FURTHER OBSERVATIONS ON THE TWO-HOUR PREGNANCY TEST

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The present trend in tests for the early diagnosis of pregnancy has been toward a procedure that is highly accurate, rapid in performance and relatively simple in technique. To this end we have devised a two-hour pregnancy test which has been employed as a diagnostic aid in this department for the past three years<sup>1, 2, 3</sup>.

The principle of the two-hour test is based upon the original observation of Asehheim and Zondek that early in the first trimester of pregnancy gonad-stimulating substances appear in the urine of the pregnant female<sup>4</sup>. Upon the basis of these findings they proposed the now classical A-Z test for the early diagnosis of pregnancy<sup>5</sup>. The A-Z procedure was performed on mice and took 96 hours for completion. At autopsy the ovaries of the mice were examined for the presence of corpora hemorrhagica, upon which criteria of a positive test were based. Various investigators, desiring to shorten the A-Z procedure, subsequently noticed that the primary, initial effect of urinary gonadotrophins, when injected into the immature female rodent, was one of ovarian hyperemia<sup>6, 7, 8, 9, 10, 11, 1, 3, 12, 13</sup>. Since ovarian hyperemia is the earliest manifestation of

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gonadotrophic stimulation, the two-hour test was devised employing ovarian hyperemia as the end point but utilizing the intraperitoneal method of administration of the urine. The test will be briefly reviewed here together with a complete analysis of the data to date.

#### *Procedure.*

*Dose of urine and mode of administration.* The urine is administered without the need of concentration and although a morning specimen is desired, it is not essential. Two cubic centimeters of urine are administered to each animal in divided amounts of 1 cc. each into the right and left lower abdominal quadrants. When injecting urine voided after the first morning specimen the dose may be increased to a total dose of 2.5 cc. to compensate for increased dilution or decreased specific gravity. The urine is readily administered by grasping the skin of the dorsum of the rat in the left hand, thus drawing the skin of the abdomen taut and with the head in a dependent position 1 cc. is injected into both the right and left lower abdominal quadrants. The manner in which the animal is held permits the intestines to gravitate away from the site of injection and thereby minimizes injury to the gastrointestinal tract by the intraperitoneal penetration of the hypodermic needle.

*Test Animal.* Immature albino female rats of the Wistar or Sprague Dawley strain are employed and may be 21-55 days in age or 30-80 grams in weight. Immaturity in the rat is more than a relative factor and may be readily ascertained by noting the state of the vaginal membrane. Perhaps at this time a word of description of the external urogenital system of the immature female rat may be appropriate. As may be noted in Fig. 1, it is apparent that there are three orifices associated with the excretory and reproductive system of the rat. The most anatomically is the clitoris actually traversed by the urethra. The urinary papilla

of the female rat simulates and may be readily confused with the phallus of the male animal. Just posterior to the urinary papilla is the semi-lunar vaginal membrane. The vaginal membrane in all probability anterior of these is the urinary papilla which represents an extension of the anterior lip of the vaginal orifice which in turn is adherent to the posterior lip in the form of a semi-circular ridge-like prominence depicted in Fig. 1. Separation of the two lips results in patency and establishment of the external vaginal orifice. Upon the state of this membrane rests the determination of the sexual maturity or immaturity of the young rat. When the membrane is intact it is evident that the animal has not experienced an estrus period. Patency of the membrane implies initiation of ovarian activity and attainment of the estrus cycle.

*End Point.* Two hours after the urine has been injected the animal is sacrificed by ether asphyxiation. The appearance of the ovary and the ovarian capsule is noted. Hyperemia, as indicated by the light to rose red appearance of these structures, is considered as a positive reaction. The intensity of the coloration of the ovarian structures sharply demark them from the pale pink adjacent convoluted oviduct and facilitate interpretation of results. The ovaries showing a negative reaction do not exhibit any demarcation between the oviduct and the ovary itself. Both structures are pale pink in coloration. A further aid in distinguishing a positive reaction may be obtained if the ovaries are permitted to stay exposed for one or two minutes after autopsy before a diagnosis is made. The hyperemia is intensified following this waiting period. Until one has attained sufficient adeptness in differentiating the rose-red hyperemia positive reaction from the pale pink negative or control picture, it may be necessary to sacrifice an intact uninjected control rat at the same time as the injected animal is

examined.

To establish the accuracy of the two-hour test and the validity of its results, simultaneous tests were performed on both the rabbit and the rat by administering aliquots from the same sample of urine to each animal.\* The rats were treated as described above. The rabbits were injected according to the Friedman modification of the A-Z procedure<sup>14</sup> and received a total dose of 20 cc. of filtered, unconcentrated urine administered intravenously in two equal doses at 24-hour intervals. The rabbits were autopsied 48 hours after the first injection and the ovaries were examined for evidence of corpora hemorrhagica. Only isolated female rabbits were employed.

In addition to the above studies, data were also collected on the value of the two-hour pregnancy test in the diagnosis of ectopic pregnancy. These cases were obtained from a series of patients in whom ectopic pregnancy was suspected and surgery was contemplated. The test was performed in most cases while the patient was being prepared for surgical exploration. The results of the two-hour tests in all these patients were confirmed or denied by pathologic reports.

### Results

In an over-all analysis of the accuracy of the two-hour test (excluding the findings observed in ectopic pregnancy) the percentage of error has been below one-half per cent. The results are presented in Table 1, and from these we see that in a total of 1206 tests one false positive reading was observed. There were five false negatives and of these three occurred when the sample of urine was obtained too early in pregnancy. Repetition of these three tests seven days later yielded positive results. The results of these false negatives and subsequent

TABLE 1—*The Diagnostic Accuracy of the Two-Hour Pregnancy Test*

	Number of Tests	Errors	Per cent Accuracy	Number of Rats
Positive	604	1	99.8	1071
Negative	602	4	99.7	1174
Total Number	1206	5	99.59	2245

data have indicated that the tests will become positive, unequivocally, when the patient is at least 21-24 days pregnant; i.e., if the urine is collected seven to ten days past the expected period. Of the other false negatives one was observed in a specimen of urine badly contaminated with coli bacilli. Injection of this urine intraperitoneally, while inducing ovarian hyperemia, also caused a diffuse generalized hyperemia of the adjacent tissue and the body cavity. Thus, despite the fact that the ovaries showed evidence of stimulation there was no contrast present between the ovary and the adjacent tissue. The test was, therefore, erroneously designated as negative. Further experience with contaminated urine prevented this mistake from occurring, since we now judge our results by the hyperemia of the ovary without necessarily comparing it to the lack of hyperemia of the adjacent tissue.

The other false negative reaction was observed in a rat injected with urine from a pregnant patient but a positive reaction failed to occur. The ovaries of this animal were apparently refractory to gonadotrophic stimulation, or at least the hyperemia usually noted failed to occur. Such an animal is to be considered as a non-reactor to urinary gonadotrophin. We have found subsequently to this that in a series of 2,000 animals, five animals could be classified as non-reactors. On the basis of these observations we now adhere to the following rule whereby at least two animals are

\*Deep appreciation is expressed to Mrs. Berta Chandler of the University Hospital Laboratories for making the urine aliquot available and for performance of the Friedman tests.

TABLE 2—Comparison of the Accuracy of the Two-Hour Test with that of the Friedman (Rabbit) Test

	Test Employed	Number of Tests	Error	Per cent Accuracy
Positive	Two-hour	160	0	100
Positive	Friedman	152	6	96
Negative	Two-hour	154	0	100
Negative	Friedman	162	4	97.5
Total	Two-hour	314	0	100
Total	Friedman	314	10	96.8

employed for each test. However, in case of a shortage of animals only one rat may be injected and if the test is positive there is no need to inject another animal. In case of a negative test it is advisable to inject a second animal to remove the possibility of obtaining a false negative through employment of a non-reactive rat.

In comparing the results (Table 2) obtained with the two-hour test and those observed by use of the generally accepted hospital procedure (Friedman test) the two-hour test has proved to be more accurate. Simultaneous tests were performed in both the rat and rabbit on the same sample of urine from each of 160 pregnant and 154 non-pregnant women. Of the total number—314—the two-hour test was correct in all instances, while the Friedman test reported a total of ten errors, or a 97.5 per cent accuracy. Of these errors, there were six false positives and four false negatives (Table 2). Four of the false positives were from patients suspected of being nearly in the menopause.

The explanation of the failure of the two-hour test to show a false positive reaction in the case of menopausal patients is based upon studies presented elsewhere.<sup>3</sup> It

TABLE 3—Results Obtained With the Two-Hour Pregnancy Test in Established and Suspected Cases of Ectopic Pregnancy

	Number of cases	Correct Diagnosis	Incorrect Diagnosis	Percent Accuracy
Established cases of ectopic pregnancy	28	23	5*	82.2
Suspected cases of ectopic pregnancy	25	25	0	100
Total	53	48	5	90.5

\*Incorrect Diagnosis  
3 cases—necrobiosis of villi  
2 cases—few viable villi

was shown that of a number of gonadotrophic preparations tested, only those possessing luteotrophic or luteinizing properties were capable of producing ovarian hyperemia. While menopausal urine is gonadostimulating in action the gonadotrophin present is chiefly the follicle stimulating hormone (FSH) in action. Since FSH does not induce ovarian hyperemia, the urine from menopausal patients would not be expected to produce a positive two-hour test but would be capable of giving a false positive Friedman test as evidenced by stimulation of the rabbit ovaries. Sufficient quantities of luteinizing hormone to produce a positive two-hour test are usually present only in urine of pregnancy or of patients with hydatidiform mole or chorion-epithelioma. This source of error in the Friedman test; i.e., urine from menopausal patients, has been noted before and is readily overcome by use of the two-hour test.

The results obtained in the cases of ectopic pregnancy are listed in Table 3. Five false negatives were observed when the two-hour test was used. Pathologic examination of the implantation site taken at the time of operation in these five cases showed necrobiosis of the villi, or only a sparse number of villi to be present. Thus, pathologically, the evidence indicated that there was an insufficient number of viable villi to produce an adequate amount of gonadotrophic hormone to elicit a positive test. Although a diagnostic accuracy



of 82.2 per cent was observed in the proven cases of ectopic pregnancy, this figure is appreciably higher if one considers the number of suspected cases which did not come to operation. In this latter group of cases (25 in all) the rat test was negative and operation was deferred with no untoward effect upon the patient. However, since confirmation of these readings was not obtained by direct observation these results therefore are not included in the group of established cases of ectopic pregnancy in Table 3. Inclusion of these cases in the series of correct readings gives the rat test a 90.5 per cent accuracy in all cases of proved and suspected ectopic pregnancy. Inasmuch as ectopic pregnancy is one of the major emergencies of obstetrics, it necessarily requires a high diagnostic acumen and demands prompt surgical intervention. Despite the cardinal diagnostic points suggested in the past for the diagnosis of this condition<sup>15, 16, 17</sup>, the physician is reassured by having his diagnosis confirmed or made by a pregnancy test before resorting to laparotomy. However, the usual lengthy tests (Friedman, A-Z, etc.) are of little avail in such an emergency, since the time necessary to perform the test makes the procedure prohibitive. However, we believe that the greatest value of the two-hour test is an aid in establishing the diagnosis of ectopic pregnancy since the time necessary to perform the test does not exceed that usually necessary to prepare the operating room for the exploratory laparotomy.

We have tested the efficacy of the two-hour test in rodents other than the rat. Among those investigated were the mouse, hamster and guinea pig. While the hamster and mouse could be satisfactorily used, the guinea pig at no time was observed to be amenable to this procedure. On the other hand, the time necessary for satisfactory completion of the test in mice and hamsters far exceeded the time necessary in rats and

required 12 to 15 hours for completion of the test<sup>3</sup>.

At this time we would like to comment on other citations in the literature where it was professed that the two-hour test had been employed but with failure of corroboration of our findings<sup>18, 19</sup>. In no instance in the literature was our procedure followed out implicitly since the method of administration of urine was subcutaneous instead of intraperitoneal. The bizarre results observed by Farris have not been confirmed in this laboratory; i.e., his implication that pregnancy tests employing ovarian hyperemia as the diagnostic end-point were too sensitive an indicator. His observations, that a positive hyperemic reaction was obtained with urine from males or females anticipating coitus or from women during the mid-menstrual period, could not be substantiated when we adhered to the two-hour procedure. He proposed the use of a color standard to ascertain the positive nature of the ovarian hyperemia. Perhaps the ultrascientific method employed by Farris in using his color standard may account for a large number of the false positives obtained.

In conclusion we would like to emphasize the advantages of the two-hour test:

1. It is the most rapid biologic test proposed to date.
2. Its accuracy compares to any of the other procedures advocated and, in our hands (excluding cases of ectopic pregnancy), has been 99.5 plus per cent correct in 1206 cases.
3. The test animals are readily procurable and there is a wide variation in the choice of animals with respect to age and weight. The animals do not have to be isolated prior to use.
4. There is no difficulty in administering the urine.
5. The actual performance of the test requires only two to three minutes of the

operator's time.

6. The end-point is easily read and requires little experience in attaining any degree of accuracy.

7. The test does not cause any discomfort to the patient.

8. There is no need to purify, concentrate or alter the pH of the urine prior to injection. Although a morning specimen is desirable it is not essential.

### Summary

Complete statistics to date have been presented on the diagnostic accuracy of the two-hour pregnancy test. The test as previously described employs the hyperemia-stimulating effect of urinary gonadotrophin upon the ovary of the immature female rat as the diagnostic end-point. The rats are sacrificed two hours after intraperitoneal injection of unconcentrated urine. Of a total of 1206 tests performed (excluding cases of ectopic pregnancy) the percentage of accuracy was 99.5 plus. A comparison of the relative accuracy of the two-hour test with the Friedman (rabbit) test was made in a series of 314 cases. In this series the rat test was 100 per cent correct as compared to 96.8 per cent accuracy observed with the Friedman test. The two-hour test was 82.2 per cent accurate in 28 cases of proven ectopic pregnancy. The advantages of the two-hour pregnancy test have been enumerated and its lack of encumbrances, as compared to other diagnostic tests for pregnancy, evaluated.

### BIBLIOGRAPHY

1. Kupperman, H. S.; Greenblatt, R. B., and Noback, C. R.: A Two and Six Hour Pregnancy Test, *Endocrinology*, 3: 548-550, 1943.
2. Kupperman, H. S., and Greenblatt, R. B.: A Rapid Test for Pregnancy and Its Evaluation as Compared with Other Known Tests, *Bull. Univ. Hosp. (Augusta, Ga.)* 5: 6-16, 1944.
3. Kupperman, H. S., and Greenblatt, R. B.: The Two Hour Pregnancy Test, *South. M. J.*, 39: 158-165, 1946.
4. Aschheim, S.: Die Schwangerschaftsdiagnose aus dem Harn durch Nachweis des Hypophysenvorderlappenhormones praktische und theoretische Ergebnisse aus den Harnuntersuchungen. *Klin. Wehnschr.* 7: 1453-1457, 1928. Zondek, B.: Die Schwangerschaftsdiagnose aus dem Harn durch Nachweis des Hypophysenvorderlappenhormons: Grundlagen und Technik der Methode. *Klin. Wehnschr.* 7: 1404-1411, 1928.
5. Aschheim, S., and Zondek, B.: Schwangerschaftsdiagnose aus dem Harn (durch Hormonnachweis). *Klin. Wehnschr.* 7: 8-9, 1928.
6. Ebersson, F., and Silverberg, M. H.: Anterior Pituitary Hormone in Urine. A Rapid Method for Diagnosis of Early Pregnancy. A (Study of 175 Consecutive Cases), *J.A.M.A.* 96: 2176-2182, 1931.

7. Reiprich, W.: Eine neue Schwangerschafts-Schnell-Reaktion aus dem Harn ("30 Stunden-Reaktion"). *Klin. Wehnschr.* 12: 1441-1444, 1933.

8. Walker, F., and Walker, D. V. H.: A Modification of the Aschheim Zondek Test, *J.A.M.A.* 111:1460, 1938.

9. Kelso, R. E.: A 24-Hour Test (Aschheim-Zondek Modification) for the Diagnosis of Pregnancy, *Am. J. Clin. Path.* 10: 293-299, 1940.

10. Frank, R. T., and Berman, R. L.: Twenty-Four Hour Pregnancy Test, *Am. J. Obst. & Gynec.* 42: 492-496, 1941.

11. Salmon, U. J.; Geist, S. H.; Salmon, A. A., and Frank, I. L.: A Six Hour Pregnancy Test, *Endocrinology*, 2: 167-170, 1942.

12. Ramsey, T. L.; Falkenstein, A. P., and Seykowski, E. J.: The Use of the Albino Rat in the Pregnancy Hormone Test, *J. Lab. & Clin. Med.* 29: 419-428, 1944.

13. Kline, B. S.: The Salmon, Geist, Salmon, Frank Six Hour Rat Test for Pregnancy, *Am. J. Clin. Path.* 14: 557-562, 1944.

14. Friedman, M. H., and Lapham, M. E.: A Simple Rapid Procedure for the Laboratory Diagnosis of Early Pregnancy, *Am. J. Obst. & Gynec.* 21: 405-410, 1931.

15. Heaney, N. S.: Diagnostic Errors in Extra-Uterine Pregnancy, *M. Clin. North America* 22: 213-221, 1938.

16. Allen, E.: Vaginal Removal of Repeated Ectopic Pregnancy, *Am. J. Obst. & Gynec.* 38: 717-718, 1939.

17. Torpin, R.: Ectopic Pregnancy: Analysis of 80 Cases. *Bull. Univ. Hosp. (Augusta, Ga.)* 5: 1-28, 1944. *Ibid.* *South M. J.* 38: 485-492, 1945.

18. Zondek, B.; Sulman, F., and Black, R.: The Hyperemia Effect of Gonadotropins on the Ovary, *J.A.M.A.* 128: 939-944, 1945.

19. Farris, E. J.: Validity of the Two Hour Rat Test for Human Pregnancy, *Am. J. Obst. & Gynec.* 48: 200-207, 1944. *Ibid.* An Ovarian Test for Determining the Probable Ovulation Time of Women, *Anat. Rec.* 88: 432, 1944.

## PUERPERAL INVERSION OF THE UTERUS

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(Participating in this study were Dr. Andrew J. Kilpatrick, Augusta; Dr. James R. McCord, Atlanta; Dr. R. A. Bartholomew, Atlanta; Dr. C. B. Upshaw, Atlanta; Dr. H. J. Bickerstaff, Columbus; Dr. J. L. Spikes, Columbus; Dr. L. G. Neal, Cleveland; Dr. O. R. Thompson, Macon; Dr. J. B. Kay, Byron; Dr. C. E. Wills, Washington; Dr. R. G. Stephens, Washington; and Dr. Richard Torpin, Augusta.)

Puerperal inversion of the uterus is so rare and of such dramatic appearance that it impresses the details into the mind of the obstetrician and thereby enhances the value of a statistical study. Furthermore, it is one of the conditions of obstetric labor that demands immediate precise therapy to insure a low mortality. Fortunately, the therapy is rather simple and available at all times. A widespread knowledge of this subject should aid in reducing an otherwise fearful morbidity and mortality.

The following 13 cases have been collected from the larger obstetrical practices of Georgia, and represent those incidences in approximately 72,000 cases. Probably more have occurred within the State. The

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statistics of the Department of Public Health of Georgia do not carry this category.

A. J. Kilpatrick, of Augusta, reports having seen a Negro primipara, 16 or 17 years old, sent into the hospital with the puerperal uterus inverted and hanging out of her vagina. She was in a moribund condition from hemorrhage and shock, and died within a few hours. She had been delivered by a midwife two days prior. Kilpatrick reports 2 other cases: First, a white primipara aged 21 years, sturdy constitutional type, who had a normal pregnancy and a spontaneous delivery. The uterus inverted clear out of the vagina soon after the delivery of the fetus. After shelling off the placenta, the uterus was immediately replaced manually by fingers pressing on the bulging portion and pushing it back. There had been no pituitrin used, no pulling on the cord, and no fundal pressure. After the uterus was restored to its original position, pituitrin was administered while the uterus contracted on the retaining hand. Convalescence was normal.

He reports another case of a white primipara aged 22 years, of medium constitutional type. Fifteen minutes after the birth of the fetus, the placenta was expelled; and then the fully relaxed uterus inverted completely out of the vagina to an amazing distance. There had been no pituitrin used in labor, and no fundal pressure exerted. Immediate restitution was accomplished by manual upward pressure upon the bulging portion, and without hemorrhage or shock. There was subsequent normal convalescence.

James R. McCord, of Atlanta, reports one case at Grady Hospital since 1932. This Negro primipara, aged 29 years, was sent in by a Negro physician after a long unsuccessful labor. The hospital findings revealed T. 100.2° F., pulse 110, the patient dehydrated, blood pressure 140/95; membranes previously ruptured, and a term fe-

tus with LOP presentation. The cervix was completely effaced and fully dilated. The immediate treatment consisted of sedation and fluids. The next day delivery was accomplished by an attending obstetrician by rotation of the fetal head with the use of Kielland forceps. The delivery was not difficult except at the extraction of the shoulders. "Between eight and ten minutes after the delivery of the baby, the attending obstetrician, while pulling the cord, instructed the resident to make fundal pressure from above. The uterus immediately completely inverted with the placenta attached. The inversion was thereupon recognized. The placenta was removed, the inversion corrected easily from below, and the uterus packed. The total duration of labor was 60 hours. The postpartum period was quite stormy with abdominal distention. She was treated with a Levine tube, and with rectal tube and penicillin. Recovery occurred in ten days and she has been apparently normal since."

R. A. Bartholomew, of Atlanta, reports a single case in his extensive private practice experience. This case was seen in consultation with another physician, and the patient was in moribund condition, dying before the uterus could be treated.

C. B. Upshaw, of Atlanta, reports "The case of a white rather thin anemic woman, aged 38 years, gravida 2, para 1, at term, who entered the hospital for induction of labor because she was due and the fetus was full size. She was showing evidence of toxemia with severe edema of the ankles. The membranes were ruptured artificially, and 1 cc. pituitrin was given; labor ensued, beginning within 1 hour. She received sedation with a total of 6 grains of pentobarbital and 1/130 grain of hyoscine. Dilation of the cervix was completed within 2 hours. A living normal female infant weighing 8 lbs., 2 ozs., was delivered spontaneously after episiotomy. There followed no un-



usual blood loss. Next the cord began to descend and it was thought that the placenta had separated. The cord was grasped, and slight traction made along with fundal pressure. There was nothing unusual in these measures. However, in a few minutes the uterus was completely inverted and came entirely out of the vagina. At this time it was noted that there had been no separation of the placenta or membranes. It was obvious that there was complete inversion. The placenta and membranes were stripped off of the uterus and then the inverted mass was pushed up into the vaginal canal. Antiseptics were again placed in the vagina; then attempts at reduction were made. This was done by the fingers and thumb making light pressure on the mass in the midpelvis. The uterus was held in counter-support by one hand on a sterile towel placed on the abdomen. In about two minutes dimpling was noted, followed shortly by a sudden clearing up of the inverted uterus. There was no bleeding or symptoms of shock. The uterus became firm and apparently normal. Sponge forceps were then used to inspect the cervix. It was found to be not lacerated, but extremely wide open with very little tone to the constricting or circular muscle of the cervix. The uterus was not packed. The patient had a normal puerperal convalescence."

H. J. Bickerstaff, of Columbus, reports the case which occurred in his neighborhood, but in Alabama, and in which he was consulted by telephone. This was in a young primipara who at delivery had a retained placenta. When the physician extracted the placenta manually, the uterus inverted with much hemorrhage. Approximately 3½ weeks postpartum, the uterus was restored by Haultain operation. She recovered, having a stormy convalescence. The interesting fact in regard to the case is that her mother had three deliveries, all of which were accompanied by retention of the placenta and

manual removal. Furthermore, her sister, a primipara due the same time and delivered by Bickerstaff, likewise had retained placenta, and this necessitated manual removal.

H. J. Bickerstaff and J. L. Spikes, of Columbus, report a case in a white primipara, aged 26 years, who had spontaneous delivery in her home, and was attended by another physician, who has since died. In regard to labor, a "shot" had been given followed almost immediately by rapid delivery. There was a mad gush of blood, and immediately the placenta apparently delivered spontaneously. Presumably the inversion of the uterus was produced by one single contraction that expelled the infant and the placenta. The diagnosis was based on inability to feel the fundus by abdominal palpation, and on finding a funnel-shaped depression where the body of the uterus should have been. She was in profound shock with a thready pulse of 160. Her vagina had been packed with a crash towel which was not sterilized. The towel was removed and since there was very little subsequent hemorrhage, no packing was reinserted. Meanwhile, plasma was given and transfusions followed some six hours later, by which time shock was much less manifest. "Sulfonamide drugs were given to combat against almost certain infection. No attempt at manual replacement was made because of shock and the obvious lack of asepsis. The patient had a very stormy convalescence, and had fever for ten days. At the end of three weeks, when she had been afebrile for ten days, the uterus was replaced by a Spinelli operation done by Spikes, assisted by Bickerstaff. Some eight transfusions preceded the operation and three or four followed. She had fever for one week and remained in the hospital two weeks longer. Both physicians agreed that further delay before the operation would have been better judgment; however, she

made a safe recovery and except for a scar in the cervix had a normal pelvis two months later. Somewhat more than a year later she became pregnant again. They advised her to be delivered by cesarean section at term, and to be sterilized. She moved away before the end of pregnancy. Tracing her whereabouts they report further as follows: She had a normal spontaneous delivery of a living infant at term at an Army hospital. The total labor was two hours, and there was no hemorrhage then. The placenta failed to deliver after an hour, and abdominal massage was used. When the placenta delivered, the fundus inverted with it. Hemorrhage followed and she was taken to the operating room, where attempts to replace it took place over a period of two hours, probably unsuccessfully, for she wrote that they plan to "operate upon her in about a week."

L. G. Neal, of Cleveland, reports the case of a Negro woman 40 years old, in her tenth pregnancy without prenatal care. All labors had been rather short and spontaneous, the same midwife attending her each time. The placenta in all previous labors had delivered spontaneously soon after delivery of the fetus.

However, in this case the placenta was not delivered for some hour and a half after the infant was delivered and the midwife had exerted considerable traction on the cord after which, to repeat her words, "Her whole insides dropped out". Neal saw the patient soon after and there was considerable bleeding and shock. With difficulty he replaced the uterus by dimpling the fundus. She recovered with a stormy convalescence, having chills and fever.

Neal also reports the case of a multipara, para 2, gravida 3, who had had no trouble with her previous pregnancies and labors. She was of slender constitutional type and was in labor 36 hours under the care of an-

other physician who used pituitrin and delivered a stillborn breech-presenting fetus. He had considerable trouble in extracting the placenta, having used fundal pressure and pituitary extract and tension on the cord. When the placenta delivered, he discovered that the uterus was inverted. Several efforts were made to "dimple the fundus" to replace it, but all failed even under anesthesia. There seemed to be contraction in the region above the cervix. Finally the cervix was slit and reduction made followed by repair of the incision. She had a stormy period of ten days and died of infection.

O. R. Thompson, of Macon, reports a single case referred by J. B. Kay, of Byron, in a Negro primipara aged 16 years, in labor 52 hours under the care of a midwife. Delivery was spontaneous of one fetus cephalic presentation and no pituitrin was used before delivery. Twenty minutes after birth of the fetus, the midwife removed the placenta manually. The patient was first seen by Kay four days later and was sent to the Macon Hospital. Here Thompson found the inverted fundus protruding from the vagina. Said he: "She was not bleeding and was in excellent condition. She was placed in bed for several days, during which time S. T. 37 was instilled into the vagina daily. Under observation, the fundus decreased in size and on the fifth day of her hospitalization she was taken to the operating room for the operation (He planned to do the Spinelli operation). After the patient was under surgical anesthesia and draped for operation, an attempt was made to reduce the inversion by gentle pressure upward on the fundus. No pressure was exerted on the sides around the cervix. Much to my surprise this manipulation proved successful and the patient was returned to the ward. She had an uneventful postoperative convalescence and was discharged on the seventh day following the reduction of the inversion." Approximately 22 months later she had her

TABLE 1—Summary of Data for 13 Cases of Puerperal Inversion of the Uterus.

<i>Obstetrician</i>	<i>Race</i>	<i>Age</i>	<i>G</i>	<i>P</i>	<i>Length Labor</i>	<i>Del. Spont.</i>	<i>Forceps</i>	<i>Pituitrin</i>	<i>Fundal Pressure</i>	<i>Pulling Cord</i>	<i>Shock and Hemorrhage</i>	<i>Rx</i>	<i>Outcome</i>
Kilpatrick Case 1	N	16-17	1	0	?	+	0	0	?	?	++	Moribund	Death
Kilpatrick Case 2	W	21	1	0	?	+	0	0	0	0	0	Immediate Manual Restitution	Normal Recovery
Kilpatrick Case 3	W	22	1	0	?	+	0	0	0	0	0	Immediate Manual Restitution	Normal Recovery
McCord	N	29	1	0	60 hrs.	0	+	0	+	+	+	Immediate Manual Restitution	Normal Recovery
Bartholomew	W										++	Moribund	Death
Upshaw	W	38			2 hrs.	+	0	+	+	+	0	Immediate Manual Restitution	Normal Recovery
Bickerstaff	W	young	1	0							+	Haultain op. at 3 weeks	Stormy Recovery
Bickerstaff & Spikes—Case 1	W	young	1	0		+	0	+	0	?	++	Spinelli op. at 3½ weeks	Stormy Recovery
Bickerstaff & Spikes—Case 2	W		2	1	2 hrs.	+	0	?	+	?	+	Unsuccessful Manual Restitution	Stormy Recovery
Neal—Case 1	N	40	10	9		+	0	0		+	+	Immediate Manual Restitution	Stormy Recovery
Neal—Case 2	W		3	2	36 hrs.	Breech	0	+	+	+	+	Immediate Cervical Incision and Manual Restitution	Death Infection
Thompson & Kay	N	16	1	0	52 hrs.	+	0	0			0	Manual Restitution Several days later	Normal Recovery
Wills & Stephens	W	24	1	0		0		0	0		+	Immediate Manual Restitution	Normal Recovery



second labor, delivering spontaneously with normal puerperium.

R. G. Stephens, of Washington, attended a white primipara, aged 24, in spontaneous delivery without oxytocics given prior to delivery, with no pulling on the cord, and no fundal pressure. Following the birth of the fetus and placenta, there was hemorrhage. C. E. Wills, in consultation 30 minutes later, found an abdominal depression at the site of the uterus and a large mass, dark red in color, like raw beefsteak, in the vagina. It was easily replaced by manual pressure and was held in normal position while pituitrin was given intravenously, following which the uterus contracted and was followed by normal convalescence.

#### *Comment*

An analysis of the series of cases reveals that this rare puerperal complication occurs in Negro and in white women in probably nearly equal ratio. Four of the 13 cases were Negro, but that is very likely similar to the race incidence of labors involved. In the total statistics there were an estimated 72,000 labors, giving an incidence of puerperal inversion of the uterus once in approximately 6,000 cases. To my knowledge there has been no case in the past ten years in the University Hospital, Augusta, in which there were approximately 21,000 deliveries, including 6,000 on the home delivery service. Adding those to the list would decrease the incidence to 1 in approximately 8,000.

More than one half of the cases occurred in primiparas. Some were associated with short labors and some with long labors in most of whom spontaneous delivery ensued. From the series, the use of pituitrin prior to delivery can hardly be indicted as a factor.

Fundal pressure and tension on the cord appeared in the histories of the management of the third stage of labor in the series of

inversions, but probably in no greater incidence than in all other labors. Certainly, injudicious use of these measures probably increased the incidence of inversion of the uterus, but possibly only under certain conditions. First, there must be an abnormal relaxation of the muscles of the uterus. Second, the placental location, and especially the location of the insertion of the cord, should be important factors. It has recently been shown<sup>1</sup> that the placenta usually lies upon one of the surfaces of the fundus flat at the time of implantation of the ovum; i.e., the anterior or posterior wall. This may be high or low. Now, if the placenta lay attached high in the uterus and if the cord arises from the placenta eccentrically near the apex of the fundus, premature tension on the cord in a relaxed uterus certainly would produce a tendency to invagination of the fundus. A similar idea has been offered by Gordon<sup>2</sup> who states that most of the placentas have a high fundal implantation. Chrisholm<sup>3</sup> has recently reported a case of inversion of the puerperal uterus caused apparently by unavoidable traction on a short umbilical cord.

Bilobation of the placenta, one lobe posterior and one anterior with the insertion of the cord between the two lobes at the fundal apex, would present similar conditions. Certainly undue relaxation of the fundus associated with constitutional, neuromuscular, or pharmacologic defects is the prime factor in the production of the majority of incidences in this series. This is rather strikingly illustrated in the patient of Spikes and Bickerstaff, who had puerperal inversion of the uterus in two successive pregnancies and in the other case of Bickerstaff with a familial history of retained placenta (self, mother, and sister).

While almost any obstetrician may meet with this amazing complication, much can be done to reduce its incidence. First, as

soon as the fetus is delivered an assistant should grasp the fundus through the abdominal wall gently massaging it, if it is relaxed, until it contracts. No fundal pressure should be made until there is the usual evidence of placental separation with rising up of the contracted fundus. No undue tension should ever be put upon the umbilical cord.

The outstanding lesson taught by this series of cases is the value of immediate recognition and immediate manual restitution of the fundus before contraction of the muscles with narrowing of the cervical ring and before hemorrhage, shock and subsequent infection have time to intervene. The morbidity and mortality of those cases so treated were consistently low, none dying and most having normal convalescence.

One should keep in mind the relaxing effects of deep ether anesthesia or of small doses of epinephrine given subcutaneously<sup>4</sup>.

If the condition is not thus managed the patient soon enters a stage where hemorrhage, shock, and infection are extensive enough to cause a tremendous mortality. Only by transfusions, chemotherapy, and the maintenance of strict local asepsis of the area can the patient hope for a prolonged convalescence to enable her to withstand the operative procedure chosen to repair the defect.

The operation is probably best done at the end of ordinary puerperal period of six weeks after all evidence of infection has subsided. At this time there are, in general, two operations available, in each of which the constricting ring in the cervix which prevents restitution is incised enough to allow the fundus to be restored to its original position. This may be done by the vaginal route, by the technic of Spinelli<sup>5</sup>, or through an incision in the suprapubic abdominal area by the technic of Haultain<sup>6</sup>.

In a few of the older patients in whom

further pregnancies are not necessary vaginal hysterectomy may be substituted.

#### BIBLIOGRAPHY

1. Torpin, R.: The Influence of Placental Site on Fetal Presentation, *J.A.M.A.* 127:442, 1945.
2. Gordon, G. A., Jr.: Etiology and Treatment of Puerperal Inversion of the Uterus, *Am. J. Obst. & Gynec.* 32:399, 1936.
3. Chrisholm, A. E.: A Case of Acute Inversion of the Uterus, *J. Obst. & Gynec. Brit. Emp.*, 51:318, 1944.
4. Woodbury, R. A. and Abreu, B. E.: Influence of Epinephrine Upon the Human Gravid Uterus, *Am. J. Obst. & Gynec.* 48:796, 1944.
5. Spinelli, P. G.: Conservative Surgical Cure for Chronic Inversion of the Uterus, *Am. de Gynec. et d'Obst.*, 54:195, 1900.
6. Haultain, F. W. N.: The Treatment of Chronic Uterine Inversion by Abdominal Hysterotomy with a Successful Case, *Brit. M. J.* 2:974, 1901.

#### DISCUSSION OF PAPERS OF DR. HERBERT KUPPERMAN AND DR. RICHARD TORPIN

DR. SCHLEY GATEWOOD (Americus): A few years ago a friend of mine practicing in the rural section asked me, "Doctor, you know the other day I was out in a home delivering a baby and the uterus inverted and I was in an awful fix. I didn't know what to do. What would you have done?" I said, "What did you do?" He said, "I put her to sleep, and gave the ether mask to someone in the family and just pushed her womb back into place." I said, "Did she get along all right?" He said, "Yes." I said, "You did just the right thing."

I think Dr. Torpin's paper is very timely in that it calls to our attention a condition that might occur to any of us practicing obstetrics. We don't know when we are going to run into something unusual. I once had a nurse give 6 ounces of paraldehyde instead of 6 drams. And a nurse once gave a child 5 cc. of adrenalin instead of 5 minims. You never know when you are going to run into something like that. It would be very interesting if we could find out how many times midwives have had this happen—I notice that it happens more frequently with doctors than midwives—I wonder how many midwives have gone ahead and pushed the uterus back. I think everyone who heard Dr. Torpin's paper enjoyed it. If they should have a case of inversion of the uterus, I think they'd know what to do.

Dr. Kupperman's two-hour rat test sounds very simple the way he explains it. When he can report such a high percentage of accuracy, 99.5 per cent in almost a thousand cases, and no false positives, it makes you realize the value of this test. I know he has acquired a lot of skill with this test and in talking with him before the meeting I asked how much skill was needed and he explained that his wife, who had no medical training, had done them for him in his absence. I have been interested in some form of pregnancy test, though I have had very little experience. The skin test, which is very simple for us to use in the office, has been very unsatisfactory in my practice and I use it less and less. I have been hoping that I could get some South African frogs. I read a report once that all you had to do was pour the urine in water and they'd lay eggs, and that sounds mighty simple, but when you get into the real technic it is not quite so simple. I have already asked Dr. Kupperman how I can get some of his rats and I hope to get some of the good results that he is getting.

DR. RUDOLPH A. BARTHOLOMEW (Atlanta): I will limit my remarks to the discussion of Dr. Torpin's paper. I have a most wholesome respect for inversion of the uterus and the seriousness of it, having seen one patient when I was in training who nearly died from shock, and the other patient in consultation who was moribund when I arrived and nothing could be done for her.

The diagnosis of the condition should not offer any difficulty if one carries out what should be a uniform procedure in all deliveries; that is, after the patient has

been taken care of and the placenta expelled and lacerations repaired, if his final act is to press clots from the uterus he will not fail to notice the absence of the uterus in the lower abdomen and detect the funnel-shaped depression where inversion occurred.

As in many conditions, the prophylaxis is the most important phase of the treatment. I think the axiom might be stated that a firmly contracted uterus will not invert. It is getting to be more and more the custom to give a drug, either ergonovine or pitocin. Many of us use it intravenously immediately after the delivery of the baby. With others, the preference seems to be to wait until the placenta has been expelled and then give it, but with the use of either of these drugs we can get such a state of contraction of the uterus that the liability to inversion is much lessened or almost removed.

In regard to treatment of the condition, I think the main thing to emphasize is the fact that when inversion is discovered, replacement may be done immediately provided the patient is not in shock. If she is in shock, by all means refrain from replacement immediately and treat the patient's shock first and get her in better condition. If one superimposes the shock of replacement to the shock that already exists, it will be fatal in many cases.

In spite of the rarity of this condition, I think it is a very practical and timely subject to bring before this Association on account of the high mortality.

DR. HERBERT S. KUPPERMAN (Augusta): I wish to thank Dr. Gatewood for his kindness in discussing the paper on the two-hour pregnancy test. My only comment on the test is that its simplicity can only be determined after one has performed the procedure himself. The advantages of the test over the frog method are many and include the following:

1. Concentration of the urine is not necessary.
2. The rat test is from 4 to 9 times as rapid.
3. Lighting conditions play no part in the evaluation of the results of the two-hour test.
4. The test animals (rats) are cheap and easily procurable.
5. No expensive equipment, such as water tanks, is needed, nor is isolation of the animals necessary.

The increased accuracy of the two-hour test over that observed with the Friedman test has been described. In addition, the rapidity of the rat test, without necessarily naming the other advantages, will probably make this test the one of choice in hospital laboratories in the future.

#### COMMUNICATION

Mrs. J. E. Hays, your state historian, has suggested I write you concerning Edward A. Pollard, the Confederate historian and author of the famous "The Lost Cause", of whom I am preparing a biography.

One of Pollard's elder sisters—Virginia—married a Dr. Theodore Parker of Georgia and later of New York. I believe Dr. Parker resided in Macon, because his brother-in-law, Edward Pollard, resided in your city from 1856 to 1858. There is strong evidence in the first two letters included in Pollard's book "Black Diamonds" that he was staying with relatives during his Macon sojourn. While in your city, Pollard completed his first two published writings: a brochure—"A New Southern Policy, or The Slave Trade as Meaning Union and Conservatism"—and an article for *The Southern Literary Messenger*—"Modern Analogies of the Roman History" (May, 1857). Such is the extent of my rather meager knowledge concerning Pollard's Georgia residence.

Any additional information you can supply will be more than appreciated. I am most interested in gathering more information concerning Dr. Parker. So far, I have been unable to find anything of value.

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P. O. Box 1572,  
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3 January 1947.

## COMPLICATIONS OF THE TOPICAL USE OF SULFONAMIDES

### *Reports of Cases*

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The dangers and reactions of internal sulfonamide therapy are well known and the physician has learned to respect the drug and watch for any ill effects. Reactions produced by the external use of sulfonamides are just as frequent, if not more so, and often as dangerous. It has been estimated that over 5 per cent of the patients who use this drug externally will develop some form of allergic reaction. Abramowitz<sup>1</sup> wisely states that it is a conservative estimate that the number of such cases in the United States runs into many thousands each year. Many are diagnosed, and probably as many others go unrecognized. In my own practice I am now seeing more than 40 of these cases yearly. The reports on the complications of the external use of sulfonamides appear frequently in various medical journals. In spite of these warnings the drug is used indiscriminately by the layman and druggist, and more so by the physician whose use of it is an indication of his shortcoming in making a correct diagnosis and not realizing the proper indications and contraindications of the drug.

The danger of sulfonamides applied to the skin consists of varying degrees of local or general reaction, which may be severe enough to be incapacitating. Clinton W. Lane<sup>2</sup> reported a death following the dusting of sulfanilamide powder into the abdominal cavity. Sensitization to the drug externally may also cause an internal sensitization and the patient may be deprived of the benefits of a lifesaving drug at some future date. A good example is that of a case reported by





Figure 1

Acute contact dermatitis of the vulva due to sulfathiazole ointment.

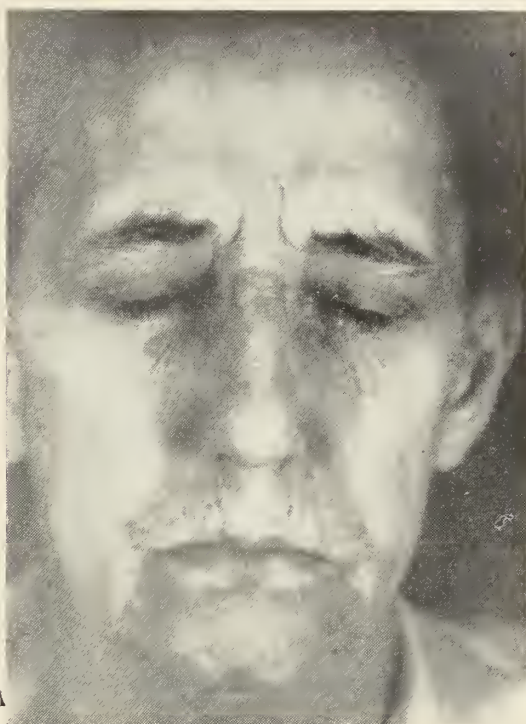


Figure 2

An allergic eczematoid reaction on the face. Same patient as shown in Figure 1. No salve was applied to the face.

Dr. J. H. Swartz<sup>3</sup> of a man who used nose drops containing a sulfonamide compound for an infection of the respiratory tract. A few weeks later he contracted pneumonia and was given a sulfonamide drug. A severe exfoliative dermatitis and anuria developed, and he died. The pneumonia had cleared and he died from the use of the sulfonamide drug. The nose drops apparently acted as the sensitizing agent.

Dr. H. M. Cole<sup>4</sup>, in his report for the Council on Pharmacy and Chemistry of the American Medical Association, gave a careful review of the literature on the local use of sulfonamide compounds in dermatology. He advised that such preparation should be used only after the older tried methods have failed and that great care should be exercised not to extend their application over five days at the most. Despite this warning such preparations are used more than ever with careless abandon. All the compounds, beginning with sulfanilamide, have been used in dermatology. Thus far it appears

that sulfathiazole is used most widely. I have observed several different types of reactions which followed the topical use of sulfonamides. I would like to briefly describe these reactions with a typical example of each.

#### *Types of Reactions*

1. *A vesicular reaction.* This type of reaction clinically does not differ from examples of contact dermatitis due to other allergens. The lesions are erythematous, vesicular and sometimes bullous. The areas of contact are involved, but the eruption may become generalized even though application of the drug is discontinued. It involves parts of the body not exposed directly to the drug. The reaction may be eczematous, urticarial, scarlatiniform, morbilliform, erythema multiforme-like and pemphigus like. The patch tests are usually positive in these types of reactions.

*Case 1.* M.B., a woman, aged 42 (Figs. 1 and 2) was given a 5 per cent sulfathiazole ointment for pruritus vulvae. The ointment seemed to give her some temporary relief and she continued to use it several times a day. On the thirteenth day she noticed that the vulva and

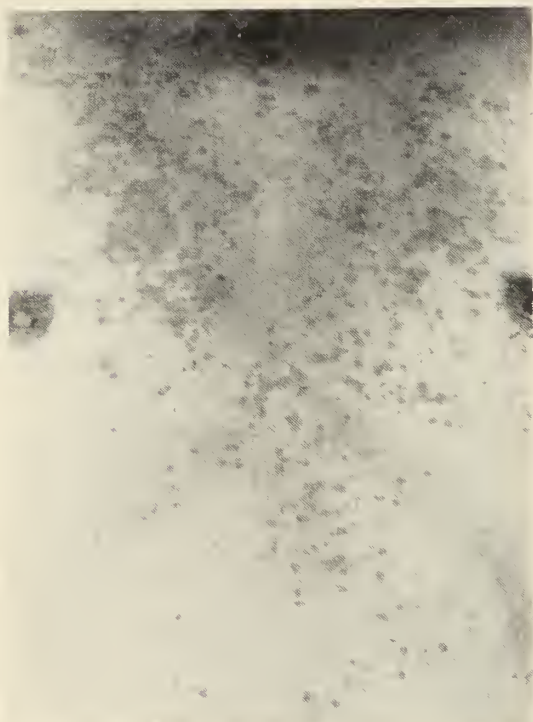


Figure 3

Eczematoid reaction from topical application of sulfathiazole ointment. The weeping has been controlled. The sanguineous crusting is still present.

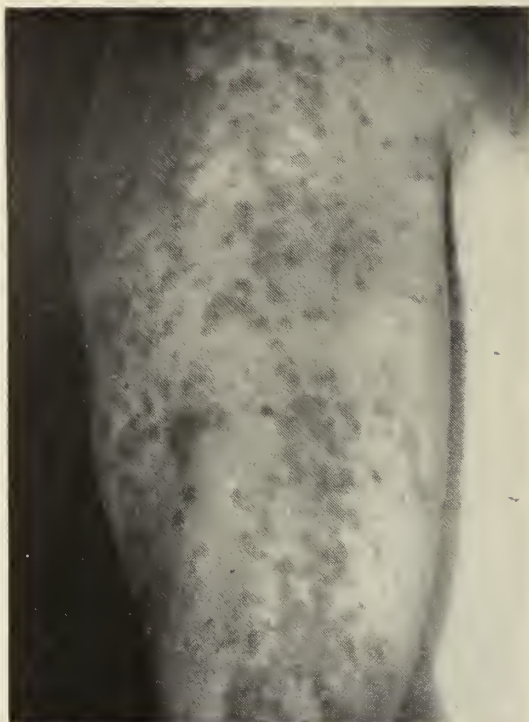


Figure 4

Inflammatory follicular papules on the chest. This is an id-like reaction. Same patient as shown in Figure 3.

groins appeared red and irritated. She continued the ointment. The eruption and discomfort were so severe that evening that she decided to call her doctor who recommended a dermatologic consultation. When seen the labia majora were red and swollen. The skin over the upper inner thighs was acutely inflamed. Local edema and vesiculation were present. Sulfathiazole ointment was discontinued and local treatment with wet dressings and soothing lotions was started. However, the eruption continued to spread for three days. Afterwards the eruption slowly cleared and the patient was symptom free in four weeks. When first seen an eruption was also present on the face in the form of red, eczematous patches. No salve was applied to the face at any time. A patch test with sulfathiazole ointment was positive.

2. *Eczematoid reaction.* This type is characterized by the development of weeping plaques which usually appear in and around the areas of contact. Sometimes bleeding and sanguineous crusts are present. Occasionally some vesiculation is noted at the periphery of the plaques. In severe reactions a sensitizing eruption called an "id" may appear on distant parts of the body. This may be lymphatic-borne and usually is present on the hands, forearms, neck, face and upper chest. Clinically, the "id" eruption is macular, maculopapular, and vesicular. Inflammatory folliculitis is sometimes produced. After the drug has been discon-

tinued the sensitizing "id" eruption will usually clear within a few days. The weeping plaques where the drug was previously applied become dry, dull red and scaly and respond very slowly to treatment. However, after healing another exposure will cause a recurrence of the eruption. Patch tests are frequently negative.

*Case 2.* R.C., male, aged 54 (Figs. 3, 4 and 5) had a varicose ulcer. His physician had prescribed bed rest and sulfathiazole ointment locally. On the fifth day areas about the ankles and lower legs became swollen, red and weeping. The next day a maculopapular eruption was present on the face, on the back of the hands and on the outer arms. Inflammatory follicular papules appeared on the chest. The eyes became swollen and on the seventh day areas of erythema and weeping appeared in the cubital fossae. The use of the sulfathiazole ointment was discontinued. The "id" like reaction cleared considerably during five days of symptomatic treatment, but the weeping plaques around the ankles responded very slowly. The patch test with sulfathiazole was negative.

Because of the negative patch test the physician again prescribed sulfathiazole ointment and the eruption immediately reappeared in its former severity.

3. *Nummular eczema-like eruption.* As in the eczematoid type of reaction, this dermatitis usually appears after prolonged local use of the sulfa drugs. In most of my cases the areas involved had been covered





Figure 5  
Maculopapular eruption of the arm. This is an id-like reaction. Same patient as shown in Figure 3.

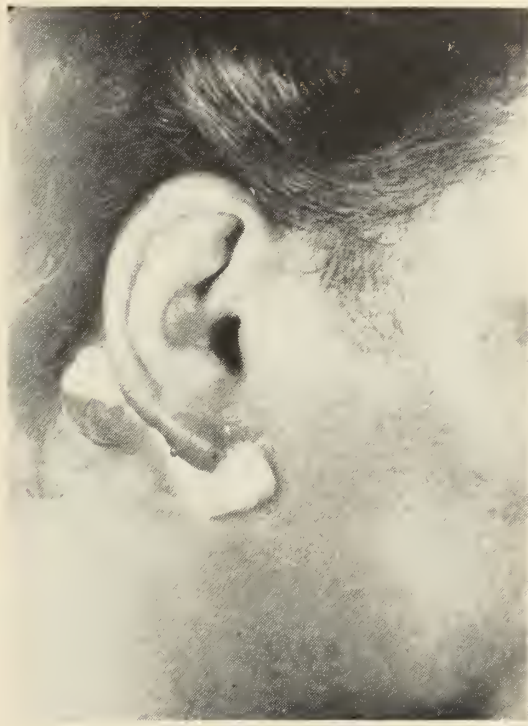


Figure 6  
Nummular eczema-like reaction from sulfathiazole ointment. Oval, weeping, erythematous patches. The lesions appear as if studded with droplets of serum.

with an occlusive dressing. The eruption is characterized by oval, circumscribed infiltrated weeping patches. The lesions frequently appear as if studded with droplets of serum. The skin between the patches often appears normal or slightly inflamed. The eruption is resistant to treatment. After it has almost cleared it may recur in its former severity without any further exposure to the sulfa drugs internally or externally. The eruption usually appears on the legs but has been observed on the dorsa of the hands and on both the extensor and flexor surfaces of the wrists.

The patch tests are usually negative, but not always. In two of my cases I rubbed a small amount of sulfathiazole ointment into the skin in the area where the eruption had previously been present. The area exposed was the size of a dime. Within twenty-four hours a patch of weeping eczema about the size of a silver dollar was present.

*Case 3.* J.B., male, aged 36, laborer. (Fig. 6) bruised his leg at work. He was given first aid treatment. Sulfathiazole ointment was applied and the leg bandaged. The dressing was changed daily and more sulfathiazole

ointment applied, but the bruise failed to heal. After ten days of such treatment small oval weeping patches had appeared on the areas treated, and the lesions continued to get worse. By the end of two weeks the weeping patches had fused to form several large plaques 6 to 10 cm. in diameter. The patient was seen at that time and the sulfathiazole ointment discontinued. After five weeks of conservative symptomatic treatment the eruption improved considerably and the patient was allowed to go back to work. Although further exposure to sulfonamides was avoided the weeping patches flared up and the legs became swollen. After four weeks of further symptomatic treatment the lesions began improving. After ten weeks of treatment the lesions were almost completely healed and the patient was able to resume work. The patch test on the forearm was negative. This patient had a total of fourteen weeks of disability from the unnecessary use of sulfathiazole ointment.

4. *Dermal-epidermal sensitivity.* Many cases develop a dermal sensitivity although the exposure to the sulfonamide drug was external only and vice versa. The eruptions are varied in appearance and severity and may give a picture of a typical drug eruption.

*Case 4a.* C.B., woman, aged 34, was employed by a war industry. All workers were given one sulfathiazole tablet a day to prevent colds during the winter months. The patient had taken sulfa drugs in the past without trouble. After the third tablet had been taken the patient broke out with an erythematous macular eruption which practically covered the whole body. The eruption rapidly cleared up after the drug was discontinued. About one month later sulfathiazole ointment was applied to a bruised finger. The finger became swollen and inflamed within forty-eight hours. The sulfathiazole dressings were





Figure 7

Epidermal-dermal sensitization. The cheeks, sides of the neck and ears are red, edematous and studded with vesicles. A moderate amount of weeping is present on the ears. The eruption followed a topical application of sulfathiazole ointment to the ears. The same condition was later reproduced by ingestion of one tablet of sulfathiazole.

continued. A subacute dermatitis appeared in the cubital fossae and gradually spread to the forearms. On the sixth day a generalized macular eruption appeared. The macular rash and the inflammation of the finger cleared when the use of the sulfathiazole was discontinued. The subacute dermatitis in the cubital fossae persisted for several weeks. The patch test was positive.

*Case 4b.* E.W., woman, aged 50, (Fig. 7) had been treated by her physician for an eruption of the ear lobe with sulfathiazole ointment. She had used ear drops containing sulfathiazole about a month previously. On the third day the ear lobe became red and swollen. The next day the cheeks, side of the neck and ears, were considerably edematous, inflamed and weeping. The salve was discontinued and the eruption cleared within two weeks. The patch test was positive. After one month the patient volunteered to take one sulfathiazole tablet by mouth. The next day she returned to the office with exactly the same picture as described above.

#### *Comment*

There is no doubt that other forms of reaction have been seen by others. The cases described were those most commonly seen in my practice. The purpose of this paper is to warn against the indiscriminate use of sulfonamides. There are indications and contraindications for the internal use of these drugs. The same applies in their external use. The drug is specific only in chancroidal infections. It is of great value

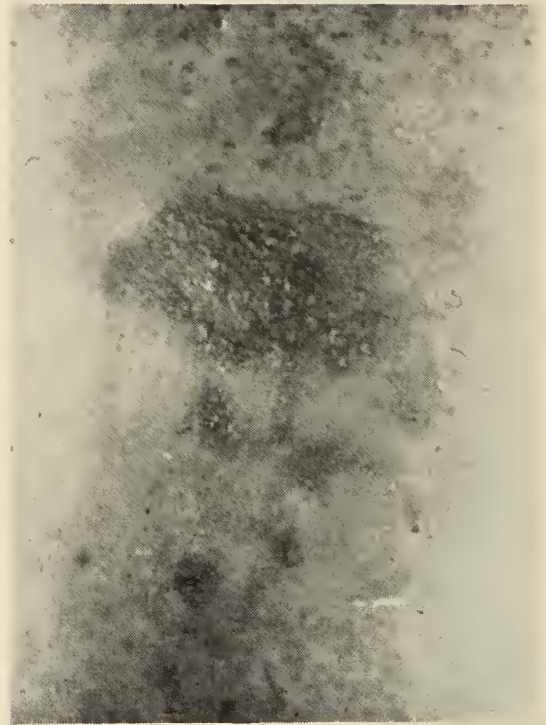


Figure 8

A positive patch test to sulfathiazole ointment. Erythema and vesiculation are present. A 48-hour reaction.

in superficial pyogenic infections, such as impetigo, ecthyma and secondarily infected dermatoses. These conditions, however, are controlled by other drugs (ammoniated mercury, penicillin, tyrothricin, etc.) and one does not take the unnecessary risk of sensitizing the patient. The drug is useless in treating fungus infections. Sensitization to the other more common bactericidal drugs is not common. The sulfonamides are contraindicated in occupational dermatoses and in eczematous dermatitis because they usually aggravate the primary eruption. The sulfonamides are still widely used and being applied to cuts, bruises and other minor surgical injuries. In addition to the local and generalized dermatitis that may appear, delay in healings and troublesome sanguineous oozing may develop.

#### *Treatment*

The treatment of eruptions due to sulfonamides should always be simple and soothing. When a reaction occurs the drug should be discontinued. Ultraviolet rays and roent-

gen rays are contraindicated because sulfonamides are photosensitizing drugs. Locally, the use of wet dressings of boric acid or Burow's solution, or the application of calamine lotion or emulsion, usually gives relief. When oozing is present, intravenous injection of sodium thiosulfate or calcium gluconate is of benefit. In very pruritic eruptions, I have found the intravenous use of strontium bromide of much value in controlling the itching. Abramowitz recommends the injection of crude liver extract because the liver plays an important part in the detoxification of the sulfonamide compounds; and he also gives 100 to 200 milligram doses of ascorbic acid by mouth daily, for its possible antiallergic properties. Vitamin A should also be given, for the sulfonamide drugs are known to inhibit the storage of Vitamin A in the liver.

#### Summary

1. Reactions to sulfa drugs which are used locally are frequent and may be serious.
2. Sulfathiazole (and other sulfa) ointments are not accepted by the Council on Pharmacy of the A. M. A.
3. The reactions observed have been described.
4. The drug may be useful in chancroidal infections, impetigo and superficial pyodermas. When used on other dermatoses it is usually an indication of one's shortcomings in making a correct diagnosis.
5. The use of sulfa drugs for local application should be discouraged and the free sale over the drug store counter should be prohibited.

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#### BIBLIOGRAPHY

1. Abramowitz, E. Wm.: Hazards of the External Use of Sulfonamide Compounds, *Arch. Dermat. & Syph.* 50:289 (Feb.) 1944.
2. Lane, Clinton W.: Observations on the Topical Application of the Sulfonamides, *South. M. J.* 38:125 (Feb.) 1945.
3. Swartz, Jacob H.: Abstract of Discussion. See Reference No. 1.
4. Cole, H. N.: The Local Use of Sulfonamide Compounds in Dermatology, *J.A.M.A.* 123:411 (Oct.) 1943.
5. Templeton, H. J.: Epidermal and Dermal Sensitization, *J.A.M.A.* 127:908 (April) 1945.

## TROPICAL DERMATOSES AMONG NAVAL PERSONNEL IN THE SOUTH-PACIFIC AREA

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For most of us in the United States the islands in the South Pacific have been a far-away-land of mystery, from which came the Wild Man of Borneo, huge boa-constrictors and the Siamese Twins. In spite of available information to the contrary we have still clung to the circus exaggerations of the P. T. Barnums, and to the goonery of the travel folder. As physicians we have affected the term "Tropical Diseases" the grotesque and curious skin diseases in medical articles and textbooks often read at a glance. And so with our imaginations pinned on a steaming hot jungle full of crawling reptiles and biting insects we went to help fight a war in which we confidently expected to find unusual skin eruptions and rare and grotesque tropical disease. Our ignorance was and is amazing—we were disappointed. But we still cling to some of our illusions; as witness such news items as the one in an Atlanta paper quoting Dr. Thomas Parran of the U. S. Public Health Service in stating that he "was desirous of giving aid to a School of Tropical Medicine at Emory University for the study of *skin diseases* and other tropical conditions". The patients have their illusions also in the term "jungle rot", "New Guinea crud", and in the answer—"I never had this until I came to the tropics."

We have in consequence, in spite of our broad medical knowledge, fostered within ourselves many misconceptions of the prac-

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tice of medicine in the tropics which have become so general among personnel that they amount to myths. There are at least six "medical myths of the tropics", most of them related to skin diseases:

1. The myth of unhealthfulness.
2. The myth of tropical sunshine.
3. The myth of tropical skin disease.
4. The myth of contagion of tropical disease.
5. The myth of fungus infection.
6. The myth of difficult treatment of skin disease in the tropics.

1. The myth of *unhealthfulness of the tropics*. Due partly to the lurid tales of last century travelers and partly to our own blind ignorance, as well as the distance that separates us, we have conceived a vague but definite notion that all equatorial lands are literally crawling with bacteria, bugs and vermin. We hear that the white man's burden is his inability to withstand the living conditions and its attendant tropical diseases. Yes, the jungle is thick and hot and humid and mosquito-ridden, and the native population is often dirty and unhygienic in its ways. But so are the lowland swamps of our own South and the deserts of the West, and the blizzards of our North and the dirt and poor personal hygiene of our city slums. Do these considerations cause us to generalize (as did the English when the Colony of Virginia was begun) that America is unhealthful?

One of the leading physicians of Manila (Dr. Fletcher) said that other than bronchitis, pregnancy, gonorrhea and the usual degenerative diseases of age, there is little for the doctors to practice on among the white population, and less of those diseases than in the United States. Dutch and Javanese doctors encountered said the same of their experiences with both whites and natives in Singapore and Batavia. Most of the statistics usually quoted come from observations among the outlying native populations, whose diseases are a direct result of poverty and poor living and are not related to the

white man who has the sense and energy to live decently.

It is true that tropical life is often quite boring and unhappy because of its constant heat, monotony, social isolation and dearth of recreation, but it is *not* unhealthy in any real sense of the word.

2. The myth of *tropical sunshine*. The more or less modern cult of sun-worshippers in action in the South Pacific during the war has done much to dispel the notion that there is something different—and deadly—in the tropical sun. There was an inordinant amount of sun-bathing among naval personnel and generalized tanning became quite a fad, without any danger from heat stroke or heat pyrexia. It is a known fact that the spectrum in tropical zones extends to the same wave-lengths as in the temperate zones, and yet contrary to my (H.S.A.) expectations there seemed to be much less likelihood of and less cases of sunburn nearer the equator than when 20-30 degrees above that point. Cases of heat pyrexia were very numerous among the British in India and Africa in the beginning of the century, but in recent years have diminished. It is probable that circulation of stories of the early campaigns of the British in India tended to exaggerate the effects of the sun, and this engendered a fear of tropical sunshine. It is curious that the sunshine is much more feared among the natives of India than among the Filipinos—it has been stated that over 50 per cent of the supposed *heat effects* were the result of malaria or cholera.

In the South Pacific the consistency of the heat and the high humidity, especially in the larger islands with high mountain ranges, is decidedly uncomfortable. Especially is this true with the new arrival but acclimitization takes place in the young and vigorous in a matter of two or three weeks. When such a climate goes unrecognized by



the neglect of good cool housing (ventilation, double-flapping of tents, etc.) and by a change in the hours of work (mid-day siesta), as was occasionally done in the war, then the effects of heat and humidity develop. The effects of a constant sweat-bath due to lack of evaporation with its prickly heat and liability to infection as well as heat fatigue will occur. One can never neglect to recognize hot weather as an enervating factor in the Arizona deserts or New York City, and the tropics are no exception.

3. The myth of *tropical skin diseases*. Dermatologic experiences among the men in the Navy in the South Pacific are indicative that the skin diseases notoriously spoken of as *tropical* are the same type of eruptions encountered in any section of the United States in the summer months, and in not too much heavier proportions. Roughly they amount to 10 per cent of all admissions to the sick bay and hospitals, and in a few areas where living and working conditions were crowded or poor, sometimes 15 to 20 per cent in the sick-call. This includes all skin diseases, mostly minor. An ordinary general practice in the United States includes about 6 per cent skin diseases of sufficient moment to cause the victim to pay for relief. Statistics from the Philippine General Hospital show that skin disease among the Filipino, exclusive of leprosy, amounts to less than 5 per cent. The United Fruit Company statistics reveal that less than 10 per cent of their personnel, both native and white, suffer from skin diseases. From conversations with dermatologists in Manila (Drs. Gutierrez and Rodiriquez) and observations in their skin clinics at the General Hospital and at San Lazero, it is quite obvious that the Filipino has a far smaller variety and quantity of skin disease than does the American. The notable exceptions are, of course, yaws and leprosy. Over half of their cases are ordinary bacterial infections which occur everywhere. It ap-

pears that clothing and soap and water, in the excessive American sense, are far more provocative of skin eruptions (not including pyogenic infections) than is the lack of soap and clothing in the Filipino. On both sides it is more a question of poor living methods—the American because of poor adjustment, and the Filipino because of poor hygiene.

Even by deliberate search only one case of true tropical skin disease was encountered in 16 months of observation. This was a case of yaws in a Mexican sailor who was closely associated with Filipino laborers as a part of his duty.

Contrary to advertised notions, skin disease is not a special problem in the tropics, but a recognition of the proper manner of living seems, at least for the American service man, essential to prevention of prickly heat, infections and exaggeration of fungus infections which have been acquired in the United States.

4. The myth of *contagion of tropical skin diseases*. There is, for most of us and was for the armed forces, a general impression that the native populations of the tropics are *untouchables*; that they are filthy and have some sort of contagious disease. And there was the impression that syphilis was rife and extensive among the Filipino, because prostitution and venereal disease were so widely advertised.

The poor, wherever you find them, are not clean, and by our American plumbing standards the natives in the Pacific seem to be less hygienic in their living, but at the worst are as good as our negroes and poor whites. Superficially they do appear to have large numbers of sores on their legs and faces and often have a heavy scaling of the skin, which on examination appear to be more often the infectious granulomas known as "dew-sores" in our community. There is a sprinkling of impetigo and much yaws and *tinea imbricata*. Yaws occurs actively in

about 50 per cent of the New Guinea children, and the incidence is over 30 per cent in the Filipino. This accounts for much of the *ulcerous* appearance of the natives, but yaws is not universally contagious for the white man. *Tinea imbricata* is, in some parts of New Guinea, very common among the melanesians but is not known in the white man. Both of these diseases are directly the result of close living conditions, and the lack of soap and water.

Of 17 different skin diseases usually described as tropical, only seven have been known to occur in the Southwest Pacific. Of these, three have been acquired by the armed personnel — granuloma inguinale, tropical bubo and yaws. The first two venereal diseases are much more common in our city clinics in the South, and there has been only one case of yaws. As to syphilis, it is practically non-existent in the New Guinean, and considered rare in the Filipino. Only since the Japanese occupation has there been enough cases to use for teaching purposes, and it is amazing how little the Filipino specialist knows of its clinical appearance. The Filipino very rarely develops the lesions of syphilis in the mouth.

There was a tendency to refer to all ulcers (usually traumatic) that occurred in Navy personnel as *tropical ulcers* when they were simply infected injuries that have occurred in the tropics. The Filipino doctors indicate that a true tropical ulcer is very rare and more than often turns out to be yaws.

It is difficult to consider that tropical skin diseases are as highly contagious for the white man as one would be led to believe.

5. The myth of *fungus infection* in the tropics. In the Navy *fungus infection* is an all inclusive term that covers a multitude of skin eruptions and is used alike by the captain of the ship, the seaman and the medical officer. To the dermatologist it means nothing, and to others it means all

skin eruptions. Everywhere one goes in the South Pacific he is told how many cases there are, and there is frequent allusion to the "problem of fungus infection" as though it were a new tropical disease. The patient says "I never had it until I came to the tropics" but readily admits having "athlete's foot" in the states. It appears that the *problem* was one of re-education of the medical officer rather than a problem of the disease itself. But in the minds of many it has become the big "tropical disease" of this war as "trench foot" was in the last, and I imagine the Veterans' Administration will be paying pensions for it in the near future.

There is no doubt that molds, yeasts and fungi, like other vegetables, grow more easily and luxuriantly in a warm, moist climate. Thus one expects to have mildew on his leather goods and clothing in the tropics (The memory of the consistent musky odor of the mildewed mattress is still fresh in mind). The cracks and crannies of the skin, damp and exfoliating, accumulate fungi and become "mildewed" just as readily. If proper care is not taken of both your clothing and skin by cleaning, airing and drying it will continue to be a nuisance. We took care of our clothes by a hot-drying-locker, but we enclosed our feet in wet shoes and socks and because it was on our skin we treated it and made it worse. Let us not deceive ourselves with poor diagnoses and worse treatments into setting up straw men to frighten us, or in jousting at windmills and calling them problems. The problem is one of wartime restrictions and quantity of men in poor living conditions.

Fungus infection, as we consider it (not *tinea imbricata*), is never found on the feet of the bare-foot New Guinean or the sandal-shoed Filipino. He does occasionally have a low-grade ringworm of the body, and a *tinea versicolor*, but he pays little attention

to either. His children have a trichophytosis of the scalp, usually of animal origin (i.e., cats) but since the hordes of cats which previously were in Manila have been hunted down and used for food by the Japanese the disease is very rare at the present time.

With careful living and particular attention to foot hygiene and proper clothing, fungus infection is no problem in the tropics—we as Americans have only made it so.

6. The myth of *difficult treatment of skin disease in the tropics*. This myth was and is widespread among the medical officers and personnel of both the armed forces in the South Pacific. There has been a general feeling of medicinal inadequacy to cope with skin diseases. Much of it was brought about by physical facilities that were less than adequate, or good, and was enhanced by the interminable meddling of other departments, apparently in a spirit of resentment that illnesses or disabilities should ever appear among men who had been pronounced physically fit by a doctor. The many minor discomforts that attend skin diseases and the self-asserted ignorance and lack of training of medical officers served to magnify and distort an average incidence into an imaginary mammoth problem. In fact, it might be said that many medical men talked loudly but not wisely and bragged about their deficiencies in the diagnosis and care of skin diseases in an effort to support their want of energy and desire to help. However, magnification (not to say lies) of our troubles and dangers have been common among all members of the armed forces.

In reality, given a minimum of perspicacity, energy and use of latent talents, patience, rest and reasonable intelligence, the skin patient recovered as readily as in other climates, provided the physical facilities were average good. Good dermatologic care has always required attention to detail,

and adjustment to situations and thus is expensive and time-consuming. Rapid, slapdash and rapid trade-school methods of treatment are never successful.

The American man, when in a good justifiable fight or seriously injured, has a stamina that is incomparable. One seldom sees one whimper or complain even when deeply afraid. But without a foe or something to conquer, guided by no particular objective he becomes mildly disoriented. The interminable waiting and inaction which characterized this war bred situations and factors that made the problem of medical practice in the Pacific burdensome for both the patients and his doctors, and the victim of skin diseases was no exception. Even a casual observation of the American male away from home and in a war, justifies the conclusion that he is a disorganized social animal when deprived of the care and direction of his women-folk. He reverts to a type—becoming sloven in his habits of personal hygiene, in clothing, in speech actions and in morals to such an extent that he gets neglectful and callous to his surroundings and his person.

While we may be loath to admit it, experience has shown that in general the American male is over-mothered, over-wifed, badly trained and poorly self-disciplined. He is a spoiled child who often whimpers for his female nurse-maid, and as such can be tortured with more complaints and fears than a dog has fleas.

#### TUMOR OF RETINA IS HEREDITARY

Retinoblastoma, a tumor of the retina, the membrane of light perception in the eye, is hereditary, according to Harold F. Falls, M.D., of Ann Arbor, Mich.

Writing in the January 18 issue of *The Journal of the American Medical Association*, Dr. Falls points out that both eyes were affected with retinoblastoma in female identical twins. The condition appeared at approximately six months of age in both. Because the parents refused either surgery or x-ray treatment for the pair, a fairly rapid extension of the tumor within the skull led to the death of both children.

Dr. Falls states that "it is my sincere conviction that parents producing any child with retinoblastoma should be strongly urged to stop all childbearing. It is also advocated that any person surviving enucleation for retinoblastoma be sterilized."



## SPOROTRICHOSIS

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Sporotrichosis is a chronic infection caused by *sporotrichum Schenckii*, and is characterized by the development in the lymph nodes, skin or subcutaneous tissues of nodular lesions which soften and break down to form indolent ulcers.

Sporotrichosis has been reported from all countries of the world. In the United States more cases have been reported from the North Central States. In Europe more case reports come from France and the Southern half of Norway and Sweden. We have reports from the whole of South America, China, India and Africa.

This infection is very rare as compared to many other types of infections, but when found it is most always with one who works in gardens, and more with those who work with flowers, especially the thorny type.

Like most all infections, sporotrichosis gains entrance into the human through abrasions, pricks, cuts, stings and bites. This fungus has been found on horses, dogs, cats, rabbits and rats. It may also be got from handling contaminated dressings removed from an open lesion of sporotrichosis. In any event, it is usually easy to trace back its source to someone or something associated with plant life.

Sporotrichosis may occur in many forms, as localized lymphatic; disseminated, epidermal, of the mucous membrane; skeletal, and visceral. Since four-fifths of all cases reported are of the localized lymphatic group, this paper is confined to this type.

Most infections are found on the hands,

arms, feet and legs; hands and arms more frequently.

The infection gains entrance through some break in the skin, and if followed by a primary sore or chancre develops anywhere from 15-days to 3-months following primary inoculation. In the beginning the primary lesion or chancre, may not be very painful, but later both the primary and the secondary lesions become very painful. The lymph nodes along the vessels draining the area of primary infection become enlarged and pink. The nodes nearer the primary sore being the larger, and diminishing in size in distance. At first they are movable, but a little later they become attached to the overlying skin, which becomes bluish pink in color, and hard and painful to touch. In a few days they become soft and have to be drained. The discharge from the broken down lymph node is sero-purulent, and cultures can be obtained from this pus. A lymph node, when drained, may close up and refill with pus and have to be opened again in twenty-four to forty-eight hours. The lymph vessel leading away from the affected lymph node or the primary sore is hard and cord-like, but not as painful to touch as the affected node.

The prognosis is good. Lesions of the type just described, and resisting all treatment other than iodine and iodides, should be suspected as being sporotrichosis. Correct diagnosis is made by the laboratory. Cultures can be obtained from the pus of the abscessed lymph nodes. It seems to be very difficult or almost impossible to find the fungus in the fresh smear of the pus, but it can be found in cultures grown from the pus after several days of growth.

A specific for this malady is found in iodine, given internally and externally. Beginning with a saturated solution of potassium iodide, 8 drops in water 3 times daily and increased daily as the patient can toler-

ate it, up to as much as 30 drops each dose. At the same time apply locally to the whole affected area, including the primary sore, a solution of 1 to 2 per cent of potassium iodide mixed with 1 to 2 per cent solution of iodine according to the patient's tolerance. This treatment should be continued for not less than 6 weeks; then 3 to 6 more weeks intermittently, as may be indicated to keep down a flareup of the infection.

#### REPORT OF CASE

Healthy young white man, aged 27, living in Habersham County, Clarkesville, 2 days after clearing out a place to build a house, removed a chigger from ulnar side of right forearm 2 inches below elbow, on July 12, 1946. Redness around chigger bite became more intense after a few days. On July 20 patient came to my office for treatment of infection. This area of redness was almost the size of a silver dollar and very sore, and there was a red streak along the lymph channel leading upward from the primary sore. At this time the center of the redness was a dry hard surface  $\frac{1}{4}$  of an inch in diameter, and on July 21 this peeled off, leaving a raw sore, and the red streak more marked.

First dressing was sulfathiazole powder to open sore, and wet gauze dressing of mercuric solution 25 per cent over the whole area. No improvement followed. Hot applications were applied followed with ichthyol for a few days; no improvement. Penicillin was given for 48 hours with no improvement. By this time, July 29, some three or four lymph nodes were abscessed, and under local anesthetic were opened and a sero-purulent pus drained, giving quite a bit of comfort. Every three to four days, some three to four small abscesses had to be drained. It was noticeable that the incision in the abscessed lymph nodes would heal immediately, and have to be opened again, some as many as three or four times. August 1, slides were made of the pus, and agar tubes inoculated and sent to the State Laboratory. Slides were reported negative, but after several days' growth a positive diagnosis was made on August 24, of sporotrichosis, and with the report an outline of the iodine-iodide treatment advised. After three days on this treatment an improvement was noticed and the patient continued to improve day by day. This treatment was continued until November 20.

After a few days' rest the patient noticed indications of recurrence and resumed treatments for a few more weeks.

Redness of the lesions and of the infected area remains until this day. There is also some hardness of the affected area, though there seems to be no activity of the infection at this time.

#### DISCUSSION OF PAPERS OF DR. WILLIAM L. DOBES, DR. HERBERT S. ALDEN, AND DR. D. H. GARRISON

DR. HUGH HAILEY (Atlanta): Dr. Dobes' paper serves as a reminder that local sulfonamide therapy is not without danger. As time passes it is my prediction that their use locally will be discarded in favor of older, safer methods. It has been my experience that when sulfonamides are indicated, satisfactory results are best obtained by administering the drug internally. If the drug is limited to four or five days, reactions are reduced to a minimum.

Dr. Alden has presented an interesting and dramatic paper. As he has stated, skin diseases on the whole among military personnel conform to those observed in

the states though modified by the extreme and constant heat. The tropical ulcer is nothing more than the pyogenic ulcer. Great rashes, fungus infections and impetigo bear the same name, jungle rot. Almost every person could claim some kind of skin affliction while on duty in the tropics. Such cases usually were of no consequence. However, I do wish to point out that fungus infections were oftentimes severe in character, far too frequent in occurrence and resistant to all recognized therapeutic measures. A great many such cases had to be evacuated to a cool climate before improving. Recurrences seemed to be the rule rather than the exception.

I was glad to hear Dr. Garrison's interesting report. It points out clearly the importance of laboratory aid in clinical medicine.

DR. R. M. REIFLER (Macon): As to Dr. Dobes' paper on sulfonamide reaction, it is a subject that is brought up at almost every medical meeting. At the last A.M.A. meeting in Chicago in June of 1944, the Dermatological Section passed a resolution bringing the attention of the doctors to the increased number of sulfonamide reactions and resolved that the sulfonamides were being used indiscriminately and not necessarily in the treatment of the diseases therapeutically benefited. These drugs for local application should be eliminated from the armamentarium. It is not the fault of the physician wholly. The patient goes into the drug store and is sold or prescribes for himself and uses the preparation so that the druggist or the patient many times are at fault rather than the physician. If the preparations are used in conditions proven to be benefited less sulfonamides will be used and fewer patients will be seen with the reactions so thoroughly discussed by Dr. Dobes.

Dr. Alden's paper I enjoyed very much. I haven't been overseas and had the impression that the "tropical rot" was something mystic. The soldiers who returned with the dermatitis and came under my care had an eczematoid dermatitis no different from that seen in this country, the only difference being in the wider distribution on the body surface and the severity.

Sporotrichosis, I have been looking for a case for a long time and have never had a case in private practice. It is something that has to be thought of in people with infections of the hands who work in gardens, and if the diagnosis is not thought of it can be easily missed.

DR. WILLIAM L. DOBES (Atlanta) We are attempting to develop a new department of mycology at Grady Memorial Hospital, Atlanta, as part of Emory University Medical School, for the study of superficial and deep fungus infections, such as blastomycosis, sporotrichosis and others. Should any of you have a puzzling case write the department of bacteriology and have them send you a Sabourauds' culture medium. One can implant scrapings from probable superficial fungus lesions or from granulomas which are suspected to be of fungus origin. The fungus grows at ordinary room temperatures. If you mail us the culture we will report back to you our findings.

Sporotrichosis usually has a typical clinical appearance. The culture is characteristic and diagnostic. Iodides are still used as a specific but the dosage should be rapidly increased to tolerance. If small doses are used over a prolonged period of time the fungus may develop a resistance to this drug. We have a patient who ten years ago took potassium iodide, 10 drops three times a day, for several months. Later when proper treatment was started he showed resistance to large doses of iodides as well as other methods of treatment. Deep fungus infections tolerate iodides extremely well, as a rule. One case of blastomycosis we cured by giving five teaspoonfuls of saturated solution of potassium iodide a day. No intolerance to the drug was evident. A recent case of sporotrichosis in a young boy responded rapidly to a teaspoonful of potassium iodide three times a day for a period of about three weeks. Ethyl iodide inhalations, roentgen-rays and other treatments may be tried or used concurrently.

DR. D. H. GARRISON (Clarkesville) I want to thank



the doctors for commenting on this paper. I wrote this paper and reported this case because it was entirely new to me, not having seen one before. I hope it will be of help to someone in beginning the right line of treatment, and not having to delay as long as I did. This patient is a good friend of mine and I wanted to do something for him, but I was helpless until I began proper treatment.

I am very thankful to our State Laboratory and Health Department for helping me.

In answer to the doctor's question regarding low carbohydrate diet in these cases, I do not know anything about that. I wish someone could tell me, for I would like very much to know. This patient was on an ordinary diet.

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## DIPHtheria ANTITOXIN AND OTHER FOREIGN PROTEINS IN THE TREATMENT OF HERPES ZOSTER OPHTHALMICUS

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*Brunswick*

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In recent years several interesting new treatments have been suggested for herpes zoster; namely, convalescent serum, smallpox vaccine, typhoid vaccine and diphtheria antitoxin, and excellent reports were made on the use of all of them. It is possible that all of these depend on the foreign protein element for their benefits, but it seems more probable that in the case of some, especially diphtheria antitoxin, there is some specific action. My experience with diphtheria antitoxin has just about convinced me that it is specific; and this was the opinion of J. R. and B. F. Walker, who reported on this treatment in the *Archives of Ophthalmology* in August, 1938. Good results with this treatment have also been reported by Richman, Beam and Lindberg.

It is certainly a mystery to me as to why diphtheria antitoxin should be specific in this disease when made specifically for a different disease. However, I have noticed that certain substances which we have used in foreign protein therapy are better in certain diseases than are other materials

classed as foreign proteins. Omnadin (a lipoprotein compound made from non-pathogenic bacterial protein and animal fats and lipoids derived from bile) is more beneficial in skin conditions, such as diffuse external otitis and acute eczema of the eyelids than are typhoid vaccine and milk, while typhoid vaccine and milk control eye conditions better than the ready prepared refined proteins.

Foreign protein therapy has been an accepted form of treatment for several years, but it seems that its action and the real reason for its good effects are not yet well understood. It is truly amazing how any irritation of the eye, regardless of the cause, is helped by foreign protein. The most important contraindications to its use are active tuberculosis, acute kidney conditions, and certain heart conditions. In most conditions calling for this treatment it is not necessary to get as severe reaction, like chills and rise of temperature. Mild iritis and keratitis will be cured by small doses which produce no reaction, but I did not find that such doses of any, except diphtheria antitoxin, helped zoster.

One of our writers of popular articles for a popular magazine evidently considers the recently suggested procaine injection for herpes zoster one of the most spectacular treatments offered. Lois Mattox Miller reported rather briefly on this treatment in the April, 1946 issue of *Reader's Digest*, in an article intended to entertain readers rather than to furnish them with information. Her article is a rather thorough synopsis of a report in *The Journal*, A. M. A. by Drs. Findley and Patzer, of Tulane University. She states that the authors have said that the treatment is not applicable to treating zoster of the head. This clause may be overlooked by most readers and it is just as well if it is, since it is in error. Although the authors may have stated that their par-



ticular technic is not applicable to ophthalmic zoster, 2 per cent procaine has been used along the course of supraorbital nerve, and it is claimed that it relieves the pain permanently. Now this injection treatment may be all right, and I do not doubt that it is a valuable addition to our things to do for shingles, but it seems to me that the smallpox inoculation and diphtheria antitoxin would make far more stirring and amusing reading for a national monthly.

One would be hard put to say just what suggested these things for trial. None of the articles which I have read gives any idea as to why any of these materials were first used in treatment of zoster. The smallpox inoculation would be suggested by the similarity of the skin lesion to smallpox and the recent reports that indicate close relationship between herpes zoster and chickenpox. The neuralgic pain is a symptom common to smallpox and zoster. The convalescent serum would naturally come up for trial as soon as it was established with reasonable certainty that zoster is a communicable virus disease which confers a lasting immunity. Just why the diphtheria antitoxin would be tried is a little more difficult to understand. We have all noticed that it is a valuable treatment for nondiphtheritic inflammation of the throat, and could assume that it might benefit any infection. The procaine acts first as an anesthetic and then as a counterirritant and, as such, may have the same effect locally as the foreign protein generally. Diphtheria antitoxin was chosen by me for trial; first, because I have seen what it will do for nondiphtheritic sore throat, and secondly, it is usually available.

Herpes zoster was well known to doctors of antiquity but it was not even hinted that it was a nerve disease until Mablis in 1818 first suggested that it involved the nerves. Parrott in 1856 was first to record that the eruption and pain followed certain nerves.

Hutchinson in 1866, and Bowman in 1867, first described herpes zoster ophthalmicus. Head and Campbell found 18 cases of the ophthalmic type in 416 cases of zoster. Earlier writers considered zoster a rather rare condition, probably because a small percentage was recognized and reported. A survey of the literature in 1884 showed only 200 cases of ophthalmic zoster reported at that time. In making a review of the literature in 1945 Edgerton refers to over 825 reports and papers on ophthalmic zoster.

Two types of ophthalmic zoster are described: one the epidemic or true zoster, and the symptomatic type. The epidemic type seems to be far more common but this cannot be said with certainty since it would be difficult to say just what constitutes an epidemic. The 8 cases reported here were seen during a period of three years. None of the cases gave a history of exposure; no two occurred in the same section of the city and no two were under treatment at the same time—not even in the same month. True zoster is now said to be contagious and closely related to varicella. Some consider the virus of zoster identical with the virus of varicella, but there seems to me to be no good reason for this conclusion. On numerous occasions adults who have been exposed to chickenpox develop zoster. All the cases in this series gave a history of having had chickenpox in childhood and none had been exposed recently. The epidemic type presents prodromal symptoms, such as malaise, digestive disturbances, vertigo and fever. These usually subside shortly after the eruption and neuralgic pain develop. Cases of this type occur sporadically and are indistinguishable from those occurring during the so-called epidemics.

The symptomatic type is so named, I presume, because it is associated with some other disease or injury, and is considered a

complication or sequel thereof. The eruption and pain are no different from that in the true zoster, but this type is more apt to run a chronic course and also more apt to recur. The pathologic changes of the two types are identical: round cell infiltration, and small hemorrhages with destruction of ganglion cells, and nerve sheath inflammation.

This symptomatic zoster has been attributed to almost all the ailments to which man is susceptible, such as acute and chronic infections, trauma, errors of refraction, severe mental strain, exposure, subarachnoid hemorrhage, and even emotional upsets. Numerous cases have been reported following poisoning by heavy metals and carbon dioxide. The list is so long that one would be thoroughly justified in concluding that any injury, operation or disease could bring on an attack of herpes zoster ophthalmicus, or that the occurrence with other conditions is a mere coincidence.

As for the nerves involved in ophthalmic zoster, it seems that more often than otherwise the supraorbital nerve only is involved; 4 out of 7 cases in this series had eruption and pain over the distribution of the supraorbital nerve only. In the other 3 cases the frontal, lacrimal and nasociliary nerves were involved. In these 3 cases the eruption covered most of the forehead, both eyelids, the side of the nose and the conjunctiva. The cornea showed deep infiltration, but no blebs. There was marked photophobia and lacrimation. Involvement of all three branches of the gasserian ganglion and bilateral ophthalmic zoster rarely occur—25 cases involving all three branches have been reported in the literature, while 44 cases of bilateral ophthalmic zoster have been reported.

The diagnosis of zoster should not be difficult. The typical rash which begins as small blebs increasing in size to about one

centimeter in diameter and changing to crusts in a few days, and neuralgic pain, are diagnostic. The pain is the symptom which causes the patient to seek relief. All of the patients except one in this group thought the rash was due to heat or other treatment used to control the pain. The one exception to this was case No. 8, who had involvement of the left small occipital, and the great auricular of the brachial plexus. He had eruption in the apex of the left posterior quadrant of the scalp. This he thought to be impetigo contagiosa, but changed his diagnosis when he found that treatment which cured impetigo in his children did not cure his eruption. This case does not rightfully belong in this group since it is not the ophthalmic type, but it is included on account of his remarkable recovery after use of diphtheria antitoxin.

The diphtheria antitoxin was given in 5000 unit doses and repeated in my first case, as advised by Walker; but since observing this case it seems to me that 15,000 units or more will be needed in most cases. I decided to try the one large dose of 15,000 to 30,000 units as the initial dose. I believe now that case No. 7 with severe nasociliary nerve involvement would have done better with about 15,000 units 48 hours after his initial dose of 30,000 units.

#### REPORT OF CASES

*Case 1*—White man, aged 46. Complaint: severe pain on right side of forehead for five days. On right forehead he had typical zoster rash of 48 hours' duration. He was given 5,000 units of diphtheria antitoxin subcutaneously, just above crest of ilium. This was repeated in 24 hours. Twenty-four hours after this dose the pain was entirely relieved and the rash was fading. Four days after the first dose of antitoxin he was so much improved that he wanted to leave the hospital and discontinue treatments. His recovery was so startling that I was apprehensive of relapse and advised a third dose of 5,000 units of antitoxin. This he took and he was discharged next day, with rash and pain completely gone. His brother reported to me several months later that he had had no more trouble.

*Case 2*—White housewife, aged 53. Chief complaint: severe pain in right frontal region for one week. She had typical zoster rash on forehead and upper eyelid. She was given 15,000 units of diphtheria antitoxin subcutaneously above crest of ilium. Two days later her pain was very much better and the rash was fading. This time she was given typhoid vaccine, 2 cc. in the deltoid muscle. Two days later she was much improved, though



there was still some right frontal pain. Again she was given 2 cc. of typhoid vaccine in the deltoid muscle. The pain was entirely relieved in 24 hours after this dose. Two months later she was having no trouble.

**Case 3**—Business man, 39 years old. Complaint: severe left supraorbital pain, increasing in severity for four days. Small red spots with tiny blebs over left side of forehead—both lids were edematous and conjunctiva of globe injected; slight infiltration of cornea. He was given 20,000 units of diphtheria antitoxin at 9:30 A.M. Next morning at 9:00 o'clock the rash had disappeared and the pain was "nothing to complain of". On the second day he was entirely free from pain except there was some pain left in eyeball. He was given 3 cc. of promanulake in the deltoid muscle. In 24 hours after this he was doing so well it was impossible to keep him in the hospital. He went to his home and wrote me two weeks later that he had had no more trouble.

**Case 4**—White housewife, 43 years old. Had severe supraorbital pain on right side for eight days. She had fading zoster rash on right forehead and right upper eyelid. She was given 2 cc. of typhoid vaccine in the deltoid muscle. This gave her a slight rise of temperature—101—but no other discomfort. In 24 hours the pain was still severe. I was unable to get diphtheria antitoxin and gave her typhoid vaccine, 2 cc. intramuscularly again. Twenty-four hours following this second dose of typhoid vaccine her pain was somewhat relieved. There was no change in the rash next day. Forty-eight hours after admission, and first dose of typhoid vaccine, she was given 20,000 units of diphtheria antitoxin. In 24 hours after the diphtheria antitoxin the pain was almost entirely relieved and the rash had entirely disappeared and she was discharged from the hospital. Three days later she still had some supraorbital pain but not enough to call for drug relief. She was given 2 cc. promanulake in the deltoid muscle. After this the pain was only noticeable for 24 hours, and when she was seen one month later she had had no more trouble.

**Case 5**—Housewife, 62 years old. Her only complaint was right supraorbital pain of four weeks' duration. She said she had had blisters on the right side of her forehead, with formation of crusts later. She was given 3 cc. of typhoid vaccine in the deltoid muscle. This produced rigors and a rise of temperature to 101.8 and some improvement of the pain in the first 24 hours. Because the diphtheria antitoxin had produced such remarkable results in previous cases further typhoid vaccine was not tried, and she was given 20,000 units of diphtheria antitoxin with the result that her pain was completely relieved in 24 hours. About two weeks later she reported that she had had no further trouble.

**Case 6**—White housewife, 72 years old. Complaint: excruciating pain in left frontal region, photophobia swelling of both left eyelids, congestion of conjunctiva and pain in left eyeball. This condition had troubled her for something over a week. Her family physician had given her penicillin shots in the home for several days, with no improvement. She had small crusts over the forehead, the result of the fading herpetic rash.

On my first visit she was given 3 cc. of promanulake intramuscularly and codeine grain 1 every three hours for pain. In 24 hours there was no improvement and she was given 20,000 units of diphtheria antitoxin subcutaneously. In 24 hours after this the pain was so much relieved that she discontinued the codeine. The edema of the eyelids and congestion of the conjunctiva were much improved. The headache persisted to some extent and she was given 2 cc. promanulake daily for three days. At the end of this time there was slight frontal pain and soreness, but she chose to call it a cure and discontinued treatment.

**Case 7**—White business man, 63 years old. Complaint: severe pain on right side of forehead for three days. He had no rash or blebs but a diagnosis of herpes zoster ophthalmicus was made on account of the character of

the pain and the absence of infection to account for it. He was given 2 cc. of typhoid vaccine intramuscularly and codeine grain 1 for pain. When seen next day the pain was very severe and the right forehead was pretty well covered with tiny blebs, which confirmed the diagnosis of zoster. This time he was given 30,000 units of diphtheria antitoxin subcutaneously in the flank above the ilium. Twenty-four hours after the antitoxin his beginning rash had faded entirely and his frontal pain had disappeared. However, he had pain in the right eyeball, circumcorneal injection and deep infiltration of the cornea. He was given typhoid vaccine 2 cc. intramuscularly every other day and the pain in the eye improved slowly as did the circumcorneal injection. The cloud in the cornea made no noticeable change for several weeks, but the cornea finally cleared and his vision is good.

**Case 8**—Business man, 29 years old. Complaint: swelling and pain behind left ear. The rash involved the apex of the left posterior quadrant of the scalp. The pain had been getting worse for something more than a week, and the rash appeared about the same time. His children had had impetigo contagiosa and he thought this rash was the same as theirs until a few days of the same treatment which cured them failed to cure his malady. Pain behind the left ear was very severe.

He was given 2 cc. of omnadin in the deltoid muscle. In 24 hours there was no improvement and he was given 20,000 units of diphtheria antitoxin subcutaneously. In 24 hours after this he had no more pain and the rash was fading. He has had no pain since.

### Conclusions

The remarkable results of the diphtheria antitoxin treatment in 8 cases of herpes zoster has convinced me that it has specific action in this disease. It is well worth remembering when this disease is seen. The substances usually used as foreign protein, when used alone, have little effect on zoster, but when used as a supplement to diphtheria antitoxin seems to be helpful.

### DISCUSSION OF PAPER OF DR. WES C. THOMAS

DR. B. E. COLLINS (Waycross): I wish to thank Dr. Thomas for his very interesting and worth-while paper.

Dr. Thomas has an unusual series in that he reports 8 cases within three years in a city with a population of 20,000. Lately the population has almost doubled with war workers. As he says, no two patients were treated in the same month. I feel that all 8 cases were of the virus or epidemic variety, and not symptomatic. The word *epidemic* does not carry the same significance as when referring to chickenpox or measles, but is merely a term to identify it from the symptomatic variety.

Dr. Thomas has well exemplified the successful use of diphtheria antitoxin after typhoid vaccine, omnadin or promanulake failed.

Assuming that herpes zoster ophthalmicus is of virus origin with pathologic changes in the gasserian ganglion, it seems more likely that the good results from diphtheria antitoxin or smallpox vaccine arise from a complement antibody fixation rather than from any non-specific foreign protein reaction.

Dr. Thomas gave special attention to the relief of pain and subsidence of the vesicles. This is important, in that early treatment will prevent the more dreadful results of impaired vision. If the cornea is affected, blebs form into ulcers which leave permanent scarring of



the cornea. I want to stress the importance of early and heroic treatment.

He showed good results from administration of 20,000 units of antitoxin rather than 5,000 units given by Walker and Walker, as reported in 1938.

DR. B. H. MINCHEW (Waycross): We are fortunate to have 8 cases of herpes zoster ophthalmicus reported to us so ably by one of our own colleagues. Dr. Thomas has obtained excellent results with the administration of diphtheria antitoxin after other agents such as typhoid vaccine, omnadin or other foreign proteins failed.

It is important for an ophthalmologist to stick to one form of recommended treatment sufficiently to fully acquaint himself with the possibilities of that particular treatment. One is too prone to abandon a recommended treatment because it does not work as he thinks it should, the first time. Dr. Thomas' consistency with diphtheria antitoxin has proved worthwhile.

Symptoms and signs of herpes zoster are neuralgic pain, and heat and redness of the skin which precede vesicular formation. The disease may be mistaken for erysipelas, from which it should be distinguished by the acute neuralgic pain and the formation of the vesicles along the course of a given set of nerves.

Blebs form on the cornea, which rupture and form ulcers which leave permanent scars. Iritis and cyclitis may occur and pass on to a destructive inflammation of the deeper coats of the eye. Atrophy of the optic nerve and paralysis of the oculomotor and trochlear have followed ophthalmic herpes.

Severity of the eye condition is nearly always greater when the nasociliary branch is also affected and the vesicles extend to the tip of the nose. It is from this branch, through the lenticular ganglion, that the nerves originate to supply the iris, ciliary body and choroid. This is a practical rule, although not invariable, and destruction of the eyeball may occur when the nasal branch is not affected.

In regard to treatment of herpes zoster ophthalmicus, all recommend confinement to bed and sedatives during the acute stage. The vesicles should not be disturbed, but a mild ointment or dusting powder should be applied. Morphine may be necessary for pain. Atropine may be necessary if iritis occurs.

The aforementioned measures have met with general approval, but the specific remedies have been varied in the literature. Without explanation of the *modus operandi*, authors have given their recommendations. Friedwald, sagely observed, "Cases of herpes zoster ophthalmicus are all too rare in the practice of an ophthalmologist to afford an adequate basis for the testing of diverse forms of therapy." J. R. Walker and B. F. Walker advocated in the Archives of Ophthalmology in 1938, the injection of 5,000 units of diphtheria antitoxin every two days if necessary until the disease was cured. Usually, they found that the pain ceased and the inflammation rapidly cleared after the first injection.

Friedenwald in 1929, and Gundersen in 1940, reported the successful use of convalescent blood or serum. Sidlick in 1930 suggested intramuscular injections of a solution of posterior pituitary extract. He also suggested intravenous injections of sodium iodide. Irradiation of the gasserian ganglion has been recommended.

Smallpox vaccine injections seem to have the larger number of advocates. Lillie Green and Park Lee Davis have given enthusiastic reports on the administration of smallpox vaccine for herpes zoster ophthalmicus.

With the comparative rarity of this dread disease, I say again we are fortunate to have Dr. Thomas report to us his care of 8 cases. His series is almost as large, and his results are quite as favorable as the ophthalmologists from much larger centers. I shall certainly keep diphtheria antitoxin in mind as a worth-while remedy in herpes zoster ophthalmicus.

DR. WES C. THOMAS (Brunswick): I want to thank these gentlemen for their discussion.

As to the 8 cases in Brunswick in three years, I must say that I was more than amazed myself because I am sure in the previous 27 or 28 years I have been in medicine I have never seen 8 other cases. That is evidently what has been and is now called an epidemic although, as I mentioned in this text, that it was a so-called epidemic to me because none of them gave a history of exposure and no two occurred in the same section.

Now as to the cornea (Dr. Minchew mentioned involvement of the eyeball), I had one case with severe involvement. I believe he would have had serious ulceration of the cornea if he had not had diphtheria antitoxin. I have in my life seen one other case that had that type of involvement and lost the sight of the eye from lenticular involvement and ulceration of the cornea. This patient, Case 7, with nasociliary nerve involvement had deep infiltration of the cornea, a cloud exactly like a white cloud in the heavens, but it finally cleared up and the surface of the cornea never did break down, although a rash began to appear on his forehead. Twenty-four hours afterwards the rash disappeared and the eye improved.

Now as to dosage. At first, as stated in the text, I used the diphtheria antitoxin as Walker advised and the rash disappeared after the second dose, and then I made up my mind to try the larger dose as I had always used in diphtheria itself, and I was much impressed with the fact that the rash disappeared in 24 hours after the larger dose, whereas with the first dose of 5,000 units it improved gradually and did not disappear entirely until some time after the second dose of 5,000 units.

The other treatments mentioned are no doubt worthwhile. As I said, I tried the diphtheria antitoxin because I have seen nondiphtheritic sore throat markedly improved by diphtheria antitoxin. When I tried it on the second case I could see no reason for trying the smallpox or typhoid vaccine any further.

## PERINEPHRITIC ABSCESS

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### Introduction

Perinephritic abscess is an inflammation and suppuration of the fatty tissue which lies between the renal (Gerota's) fascia and the kidney. The disease has a high mortality rate in neglected cases, the delay being due chiefly to the lack of uniformity in its symptoms and physical findings. It is, therefore, the purpose of this paper to call attention to the etiology and physical finding of the disease, and to suggest a surgical approach in the treatment of perinephritic abscess which has proved effective in the management of the disease.

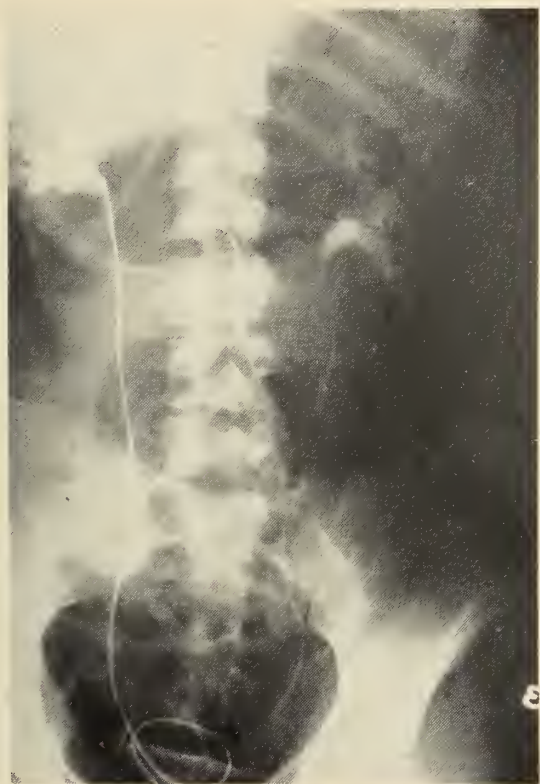


Figure 1

Retrograde pyelogram in horizontal position showing the typical x-ray findings of perinephritic abscess on the right side.

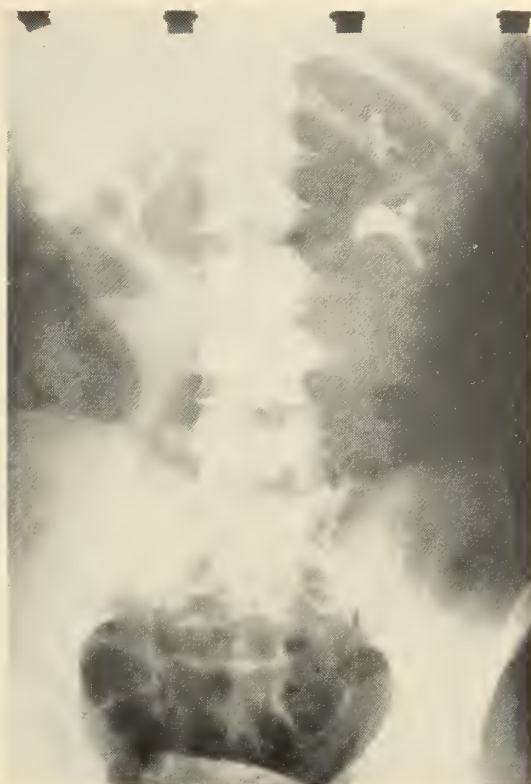


Figure 2

Upright pyelogram on same case as shown in Figure 1, showing fixation of right kidney, with normal kidney motion on the left side.

### *Etiology*

Perinephritic abscesses are of two types. Those which arise from a distant focus are usually spoken of as *primary*, while those which originate by direct extension from an inflammatory process in a neighboring organ are said to be *secondary*.

The primary or metastatic type is by far the more common. It usually arises from a superficial pyogenic focus such as a furuncle, carbuncle or infected wound, but it may be a sequela of otitis media, tonsillitis or such an infectious disease as scarlet fever. This type of perinephritic abscess is almost invariably caused by a staphylococcus, but infrequently it may be associated with a streptococcus or pneumococcus.

The secondary type of perinephritic abscess usually arises by direct extension of suppuration from the spine or kidney, as in rupture of the kidney. The bacterium involved in this type of perinephritic abscess

is usually the colon bacillus, but other types of organisms may be involved depending upon the source of the infection.

### *Diagnosis*

The symptoms of perinephritic abscess of the primary type are often vague and misleading, and the only symptom may be a septic type fever for several weeks until localizing symptoms occur. Later in the disease pain appears in the kidney region, and the patient may notice that there is bulging in the flank. Urinary symptoms of frequency, dysuria or pyuria occur infrequently. There is occasionally a history of inability to walk or to extend the thigh on the side involved due to spasm of the psoas muscle. When the perinephritic abscess is a result of extension from a neighboring inflammatory process, symptoms are related to the primary disease, as appendicitis, osteomyelitis of the spine or rupture of the kidney.



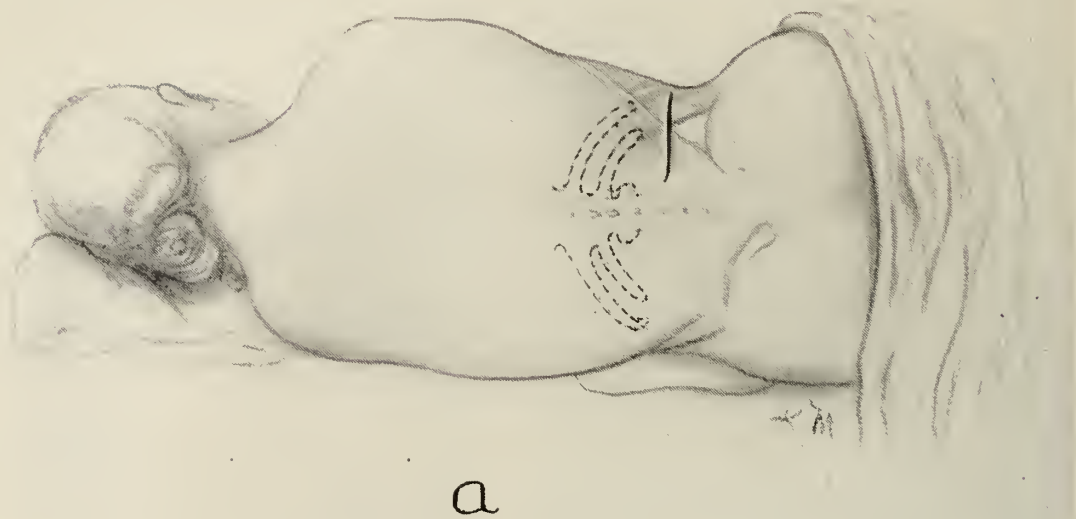


Figure 3  
Drawing showing the skin incision—midway between the crest of the ilium and the costal margin.

Physical findings are minimal until late in the disease, when there occurs a mass in the kidney region on the side involved with tenderness and muscle rigidity. Pain on extension of the thigh is a constant sign and is usually present early before a mass can be palpated. A septic fever and leukocytosis may be present for several days or weeks before a diagnosis is established (Figures 1 and 2).

A positive diagnosis can, however, be made early in perinephritic abscess by a careful urologic examination which includes pyelography. X-ray findings which are characteristic are as follows:

1. *Fixation of the Kidney:* The kidney on the side involved does not move when an upright film is made and is fixed in inspiration and expiration.
2. *Obscuration of Soft Tissue Shadows:* In a plain x-ray film there will be an absence of the psoas muscle shadow and renal shadow on the diseased side. These soft tissue markings usually seen on an x-ray film of the abdomen are poorly seen, or not seen at all, due to the density of the overlying abscess. Rarely in large perinephritic abscesses the 12th rib or the transverse processes of the 1st and 2nd lumbar vertebrae may also be obscured.
3. *Displacement of the Kidney:* The abscess usually displaces the lower pole of the kidney forward and laterally, and the ureter can occasionally be seen to deviate around the mass.
4. *Displacement of the Bowel:* When the abscess is large, and frequently it is, the gas shadows of the

bowel are pushed away from the upper quadrant involved.

5. *Visualization of the Abscess:* The abscess can frequently be seen on the x-ray film as a clearly defined soft tissue mass.
6. Curvature of the spine with concavity toward the side of the abscess, which is due to psoas muscle spasm, is present in approximately 50 per cent of the cases.

### Treatment

The treatment of choice as soon as the diagnosis is established is incision and drainage of the abscess. It is common practice in draining such an abscess to make a regular or slightly modified kidney incision in which the external and internal oblique, latissimus dorsi, and transverse muscles are severed. Such a wound is slow to heal due to the drainage of purulent material through it, and not only is the convalescence prolonged but the mortality rate of the disease is increased.

A surgical approach to the abscess is recommended which is new only in its use in this disease. The incision, described first by Dr. F. E. B. Foley in 1936, was devised as a surgical approach to the upper third of the ureter for ureterolithotomy and to date has been employed chiefly in that capacity. The incision is ideally suited for the drain-



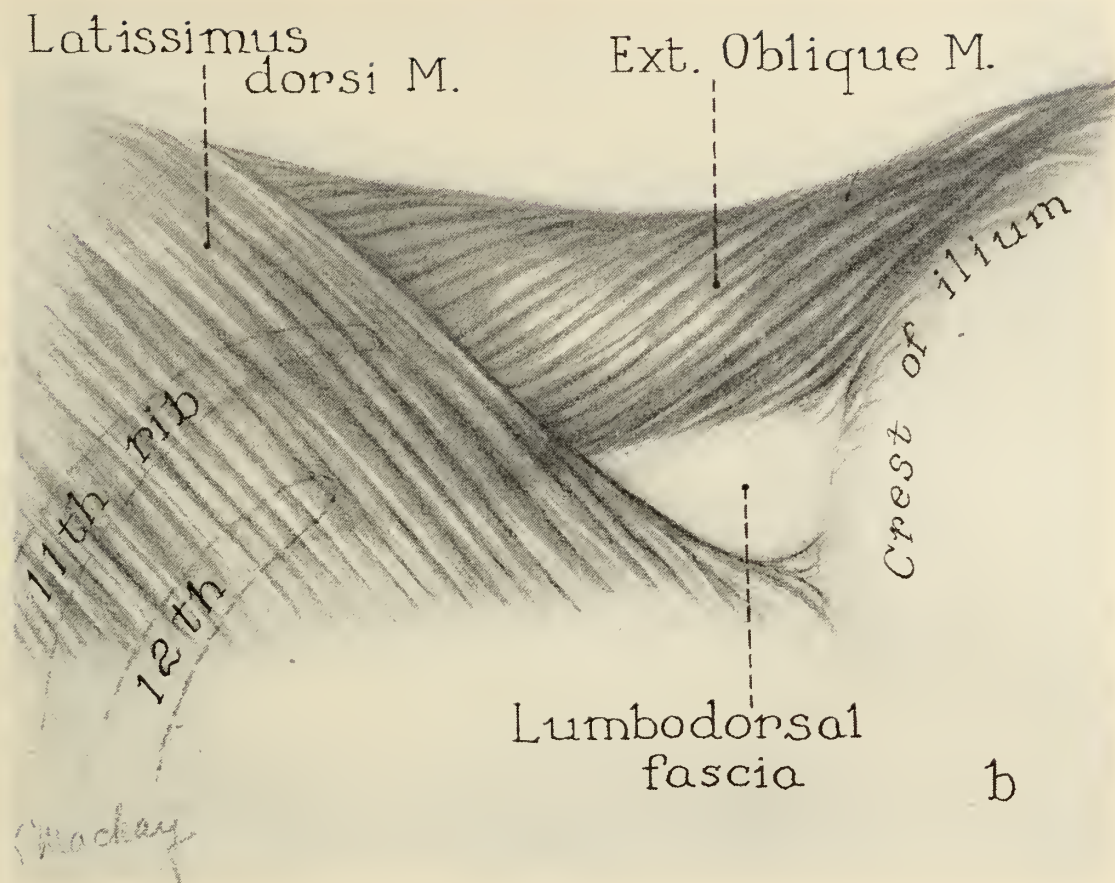


Figure 4  
Drawing showing the anatomy of Petit's triangle

age of a perinephritic abscess and our results in its use in 8 recent cases prompts a complete description of the operation.

The incision is made in a transverse direction 9 cm. ( $3\frac{1}{2}$  inches) in length over Petit's triangle, midway between the crest of the ilium and the costal margin. No muscles need be severed or divided and for the most part the incision is completed by retracting the edges of muscles. The skin incision exposes the posterior edge of the external and internal oblique muscles and the anterior edge of the latissimus dorsi muscle, which are separated by blunt dissection on their undersurfaces from the lumbodorsal fascia upon which they lie. This allows for ample retraction of the oblique muscles anteriorly and the latissimus dorsi posteriorly exposing the lumbodorsal fascia for equal length as the skin incision. The lumbodor-

sal fascia is then divided in the line of its fibers for a distance equal to that of the skin incision which exposes the perirenal (Gerota's) fascia under which lies the abscess that is to be drained. The abscess is usually well encapsulated and may be opened by inserting a finger into it.

Ample exposure is obtained by the incision and the hand may easily be inserted into the wound to break up pockets of pus in the abscess. A clear view of the abscess cavity, kidney or ureter may be had by using deep retractors.

A cigarette drain is left indwelling in the wound to facilitate drainage, and the wound is closed by simply removing the retractors and suturing the skin. An absorbable suture may be placed on either side of the drain in the lumbodorsal fascia if desired. The

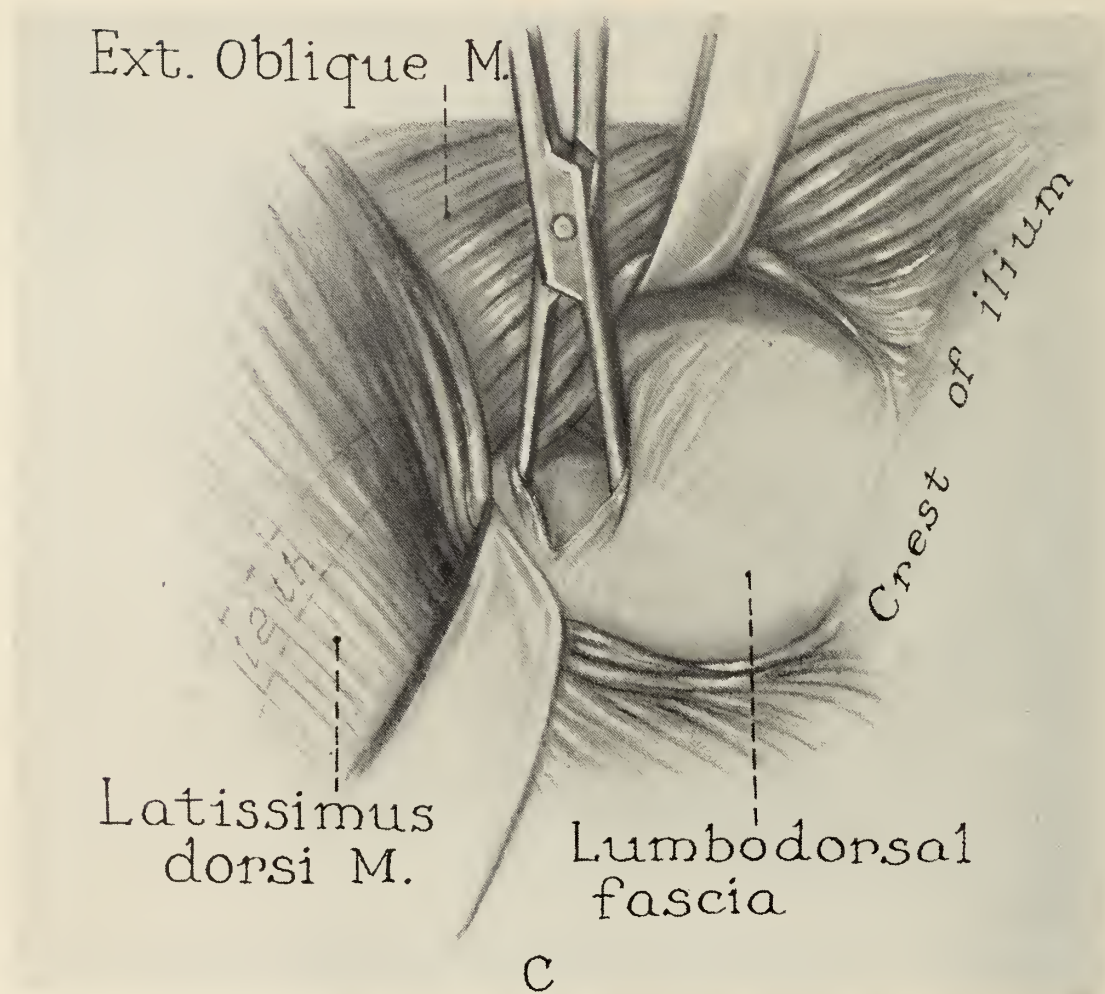


Figure 5  
Drawing showing the technic of dividing the lumbodorsal fascia.

drain is removed on the fourth to the seventh postoperative day, depending upon the amount of drainage from the abscess.

The above described incision offers many advantages over the incision regularly used in this disease for the following reasons:

1. The technic is simple, and the operation may be completed in fifteen minutes without hurry.
2. It gives dependent drainage to the abscess.
3. There is no likelihood of postoperative hernia.
4. Bed rest is not essential because of the operation, and the patient may be ambulatory the following day.
5. Since no muscles are severed and tissue damage is slight, the wound heals more cleanly and more rapidly.
6. In cases that are poor operative risks the operation may be performed using local anesthesia, which is most impractical in the regularly used kidney incision.
7. Prolonged convalescence is unnecessary, and the patient can usually be released from the hospital within seven days.
8. The scar that results from the operation is not unsightly.
9. No nerves are injured by the operation and no post-operative pain or anesthesia ensues.

Chemotherapy plays an important role in the postoperative management of the disease. Penicillin is quite effective in all types of perinephritic abscesses except those which arise from a ruptured appendix, in which sulfonamides and streptomycin are preferable.

#### Summary

1. The etiology and diagnosis of perinephritic abscess have been reviewed.
2. A surgical approach for drainage of the abscess has been described in detail.
3. In a small series of cases it would appear that this procedure is far superior to the ordinary kidney incision for this purpose, and its superiority has been discussed.



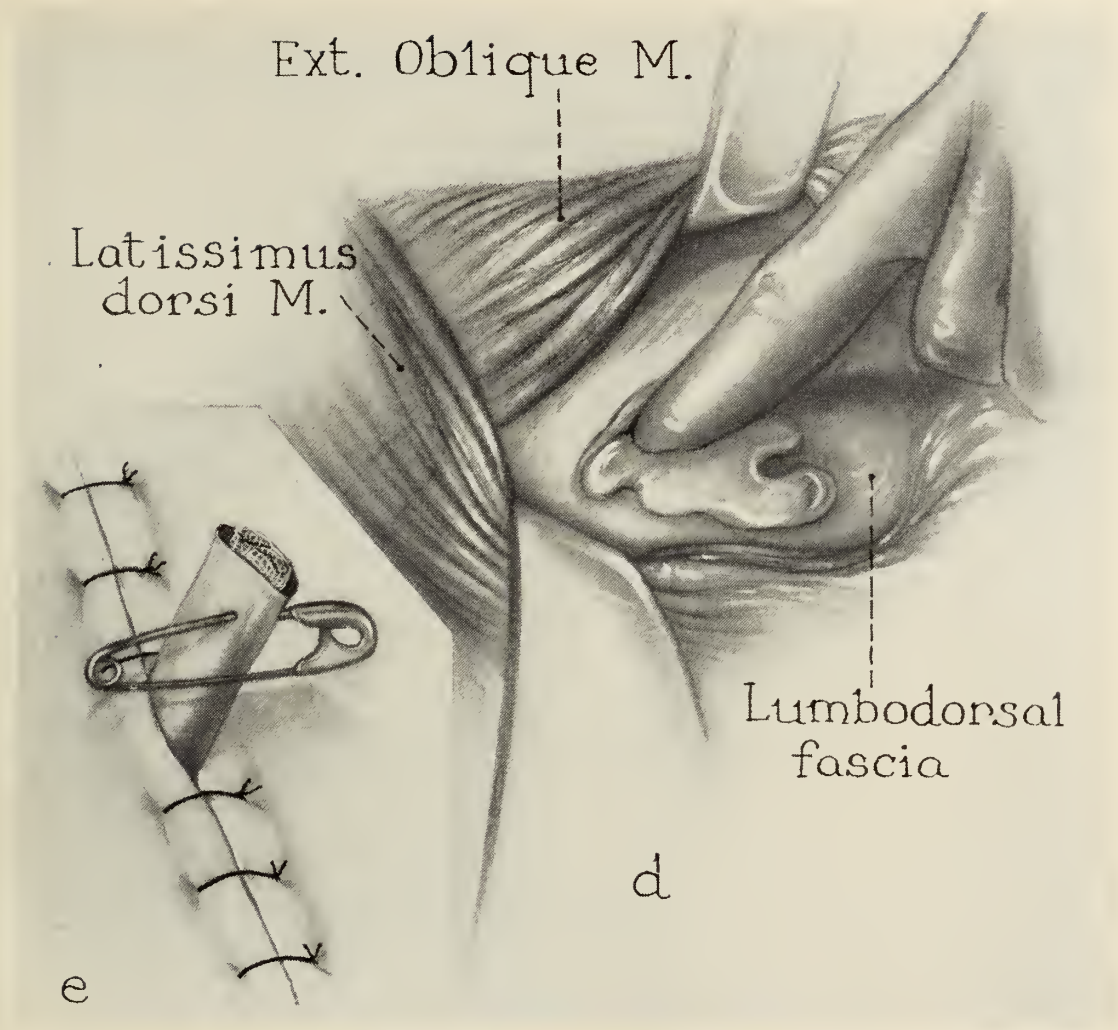


Figure 6  
Drawing showing the technic of inserting a finger into the perinephritic abscess (d); and the closed wound (e) with indwelling cigarette drain.

#### REFERENCES

1. Atcheson, D. W.: Perinephric Abscess, *J. Urol.* 46:201-208, 1941.
2. Brunn, H., and Rhodes, G. K.: Acute Hematogenous (Metastatic) Perinephric Abscesses, *J.A.M.A.* 94:618-621, 1930.
3. Bugbee, H. C.: Perinephritis and Perinephritic Abscess *Am. J. Surg.* 26:255-261, 1934.
4. Campbell, M. F.: Perinephric Abscess, *Surg. Gynec. & Obst.* 51:674, 1930.
5. Carty, J. R.: Lateral Curvature of the Spine in Perinephritic Abscess, *J.A.M.A.* 90:1730, 1928.
6. Foley, F. E. B.: Management of Ureteral Stone, *J.A.M.A.* 104:1314, 1936.
7. Higgins, C.C., and Hickem, N. F.: Perinephritic Abscess, *Ann. Surg.* 95:988-1013, 1932.
8. Hunt, V. C.: Perinephritic Abscess, *J.A.M.A.* 83:2070-2074, 1924.
9. Kirsh, D., and Diaz Rivera, R. S.: Perinephric Abscess—a Previously Unreported Complication of Amebiasis, *Am. J. M. Sc.* 206:372, 1943.
10. Lieberthal, F.: Perinephric Abscess, *S. Clin. North America*, 22:149, 1942.
11. Mathe, C. P.: Diagnosis and Treatment of Perinephritic Abscess: Renal Fixation, a New Roentgenographic Diagnostic Sign, *Am. J. Surg.* 38:35-49, 1937.
12. Miller, R. H.: Perinephritic Abscess, *Ann. Surg.* 106:756, 1937.
13. Menville, J. G.: The Lateral Pyelogram as a Diagnostic Aid in Perinephric Abscess, *J.A.M.A.* 111:231-233, 1938.
14. Ockerblad, N.: Perinephric Abscess, *J.A.M.A.* 83:2074, 1924.
15. Peacock, A. H.: Perinephritic Abscess, *Surg. Gynec. & Obst.* 48:757, 1929.
16. Powers, J. H.: Twenty Patients with Perirenal and Subphrenic Infections, *New York State J. Med.* 41:841-848, 1941.
17. Prehn, Douglas T.: Pyelographic Sign in Perinephritic Abscess, *J. Urol.* 55:8, 1946.
18. Richardson, E. P.: Perinephritic Abscess, *Surg. Gynec. & Obst.* 21:1-5, 1915.
19. Rose, I.: Perinephric Abscess Simulated by Staphylococcal Septicemia, *Brit. M. J.* 2:831, 1940.
20. Shane, J. H., and Harris, M.: Roentgenologic Diagnosis of Perinephritic Abscess, *J. Urol.* 32:19-26, 1934.
21. Simeone, F. A.: Perinephric Abscess, *Arch. Surg.* 45:424, 1942.
22. Smith, W. M., and Keith, N. M.: Perinephritic Abscess, *M. Clin. North America* 74:727, 1930.
23. Stevens, A. R.: Diverticulum of the Ureter: Case with Acute Inflammation and Spontaneous Perforation. *J. Urol.* 16:157, 1926.
24. Swan, C. S.: Perinephric Abscess, *New England J. Med.* 209:180-184, 1933.

*The JOURNAL would like to record the scientific work of Georgia doctors. It earnestly requests, therefore, that each physician in the State who publishes a contribution in some other medical periodical submit an abstract of the article for these columns.*



**THE JOURNAL**OF THE  
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FEBRUARY, 1947

**MULTIPLE SCLEROSIS**

The past decade has contributed its share to the voluminous literature on multiple sclerosis, has witnessed the extension of a few older ideas and has added a few of its own; but offers no immediate solution to the enigma of its origin and no therapy of proven value.

Steiner<sup>1</sup> has continued to present observations which he regards as confirmation of the "spirochetæ myelophthoræ" origin of the disease, but many others have failed to note any specific relationship between the formation described and multiple sclerosis.

Brickner<sup>2</sup> added to his theory of exaggerated lipolytic activity as being responsible for the destruction of myelin sheaths, and which activity could be inhibited by the ingestion of quinine. Others have failed to obtain the clinical improvement with quinine, and some investigators<sup>3</sup> had contrary experimental results in studies of lipolytic activity.

In 1882 Ribbert reported a congested vessel in all patches, believed it resulted from a disseminated thrombosis and that the exciting cause circulated in the blood. Putnam<sup>4</sup>, reviving this idea, reported numerous observations on what he regards as venous thrombus formation (with which interpretation many neuropathologists have disagreed), and believes this responsible for the perivascular demyelination. He described similar perivascular plaques produced experimentally by injecting foreign substances that will cause venous obstruction. He postulates, as the primary factor,

a faulty clotting mechanism. There was little evidence found by others in confirmation, and Reese<sup>5</sup>, testing the theory of a faulty clotting mechanism with the use of dicumarol, obtained results that seem to contradict the venous occlusion theory.

More recently Ferraro<sup>6</sup> reviewed the subject of experimental anaphylactic reaction and pointed out the similarity between the plaques in multiple sclerosis and the reactions found during certain stages of the more chronic anaphylactic reactions. This is an interesting comparison, but much more cogent evidence is needed to establish this theory.

It may be well to recall that few diseases produce in the nervous system such a specific reaction that the histologic study of which will permit a certain determination of the causative agent. The vast majority of diseases produce such a varied non-specific reaction that only close correlation with the clinical picture and course can any dependable conclusion be arrived at. The previously referred to studies have not followed this axiom too closely.

On the theory that cerebral vasodilation might be beneficial in multiple sclerosis both nicotinic acid intramuscularly, two to three times a week<sup>7</sup>, and histamine intravenously daily<sup>8</sup>, have had their advocates. The results of these measures in the hands of others have not borne out the enthusiasm of the advocates.

It has been held by many neurologists that multiple sclerosis is virtually the prerogative of the young adult and to make such a diagnosis when symptoms begin after the age of 30 is presumptuous and practically unprovable. Although it is preeminently a disease of the young adult, it does occur not infrequently in the older age groups as pointed out in a recent study<sup>9</sup> in which out of 42 cases confirmed by autopsy, 9 (21 per cent) had their onset during or

after the fifth decade of life. It may also be recalled when multiple sclerosis was regarded as a disease almost unknown in the Negro. This is not in accord with the observations of some of us in this area of the South, nor with those of Kolb, who finds in Baltimore the incidence in the Negro is almost identical with that in the white group.

Thus discouragingly ends another decade of study of this disease, but continued efforts will be made until its mysteries have been unraveled. In the meantime the importance of correctly distinguishing it from other diseases is obvious. Not only will much unnecessary therapy be avoided, but often some of the resulting disturbance can be benefited—and it continues to involve in order of frequency: the corticospinal tract, the cerebellar system, and the optic nerves.

RICHARD WILSON, M.D.

#### REFERENCES

1. Steiner, Gabriel: Is Multiple Sclerosis an Etiologically Uniform Infections Disease? *Detroit Medical News*, 32:7, 1941.
2. Brickner, R. M.: Recent Experimental Work on the Pathogenesis of Multiple Sclerosis, *J.A.M.A.* 106:2117, 1936.
3. Richards, C. H., and Wolff, H. G.: Studies in Multiple Sclerosis, *Arch. Neurol. & Psychiat.* 43:59, 1940.
4. Putnam, T. J.: Evidences of Vascular Occlusion in Multiple Sclerosis and "Encephalomyelitis," *Arch. Neurol. & Psychiat.* 37:1298, 1937.
5. Reese, H. H.: Multiple Sclerosis and Dicumarol Therapy, *Tr. Am. Neurol. A.* 70:78, 1944.
6. Ferraro, A.: Pathology of Demyelinating Diseases as an Allergic Reaction of the Brain, *Arch. Neurol. & Psychiat.* 52:443, 1944.
7. Moore, M. T.: Treatment of Multiple Sclerosis with Nicotinic Acid and Vitamin B<sub>1</sub>, *Arch. Int. Med.* 65:1, 1940.
8. Horton, B. T.; Wagner, H. P.; Atta, J. A., and Waltman, H. W.: Treatment of Multiple Sclerosis by the Intravenous Administration of Histamine, *J.A.M.A.* 124:800, 1944.
9. Friedman, A. P., and Davison, C.: Multiple Sclerosis with Late Onset of Symptoms, *Arch. Neurol. & Psychiat.* 54:348, 1945.
10. Kolb, L. C.: Multiple Sclerosis in the American Negro, *Arch. Neurol. & Psychiat.* 47:413, 1942.

## EONS OF PAIN — A CENTURY OF LETHE

VICTOR DOLOR

When Sir James Y. Simpson, who first used chloroform in obstetrics, was made a baron in 1866 he placed the above words on his coat-of-arms. Translated into English these words mean *victory over pain*.

Recently medical historians celebrated the centennial of the first public demonstra-

tion of surgical anesthesia. It was on October 16, 1846, when William Thomas Green Morton through the administration of ether rendered a patient unconscious and insensitive to pain at the Massachusetts General Hospital while John Collins Warren performed a surgical operation.

To Crawford W. Long of Jefferson, Georgia, belongs the credit of first employing ether for surgical anesthesia. On March 30, 1842, he administered ether for the removal of a tumor from the neck of James M. Venable. The recognition and honor so well deserved by Crawford W. Long was forfeited by the fact that his was not a public demonstration and that he unduly delayed publication of this remarkable feat. The controversy between Wells, Jackson and Morton and the long delayed recognition of Long is well known. This controversy, yet unsettled, was most unfortunate. The best we can do is to accept Oliver Wendell Holmes' verdict—"To E(i)ther".

The first ether anesthesia in Europe was for the extraction of a tooth in the home of Francis Boott on Gower Street in London. Boott had been notified by Jacob Bigelow, professor of material medica at Harvard Medical School. In turn Boott informed the great surgeon, Liston, who on December 21, 1846, performed an amputation of the thigh while the patient was under this marvelous vapor. In a letter to Francis Boott he said, "It is a very great matter to be able thus to destroy sensibility. . . ."

A great wonder had come to pass. The patient did not feel the amputation but Liston, operating because of a discharging sinus from an injured tibia, knowing nothing of the danger, infected the stump and the patient died of septicemia. The student Joseph Lister witnessed this operation and was permitted to see "victory over pain" and to witness the course of infection over which one day he would stand victorious.

The news of ether anesthesia swept continental Europe like a whirlwind. It was no longer necessary to do a major amputation "while a colleague was taking a pinch of snuff". Speed was not so essential when pain no longer racked the body.

Samuel Guthrie of Sacketts Harbour, New York, discovered a method of preparing an alcoholic solution of chloric ether (chloroform) and wrote to Benjamin Silleman of Yale University about its stimulating qualities. It was suggested that it might be of use in medicine. Almost simultaneously chloroform was discovered in France and Germany. Guthrie had failed to date his letter and when the anesthetic value of chloroform was demonstrated controversy as to priority arose as in the case of ether. Though Guthrie deserves the credit of being the first to prepare chloroform and though he recognized its stimulating qualities he missed the glory of demonstrating and announcing its anesthetic virtues. In spite of his chemical sagacity, he saw his own daughter fall into a "sweet sleep" through accidental inhalation of chloroform in his laboratory without sensing its remarkable possibilities.

After James Y. Simpson proved its anesthetic virtue and popularized its use in obstetrics Guthrie with "no happiness (and) without a home" pathetically wrote as follows. "You see it called chloroform and the newspapers are beginning to give me credit for discovering it. I made the first particle that was ever made. . . ."

Thus America can claim credit for anesthesia, the greatest boon that has come to mankind. Wherever the knife is used, wherever babies are born, wherever bones are set and wounds are attended, the spirits of Long and Guthrie are hovering in the ether.

—Editorial, *Journal of the Oklahoma State Medical Association*, Jan. 1947.

## SILENT INTESTINAL OBSTRUCTION

To state that medicine is ever in flux is to repeat a familiar truism. From the laboratories of research and from the broader field of clinical experience a veritable stream of new observations constantly emerge to supplement the physician's armamentarium. Thus, the doctor's task is both blessed and burdened—blessed because of the promise of the new, and burdened because the obsolete must be recognized and discarded.

From medical school days to the less prosaic of life's October, the doctor is busy learning to apply that which has been proved of value, and unlearning much upon which he had depended in earlier years to resolve his clinical problems. So it becomes necessary, from time-to-time, for the physician to re-appraise the signs and symptoms upon which he has relied in the past to guide him in diagnosis and therapy. Witness the disappearance of fever, labored breathing, cyanosis and anxiety in pneumonia after treatment with the antibiotics, in spite of persistence of leukocytosis, consolidation and x-ray evidences of full-blown pneumonitis; or the rapid disappearance of the rash of primary syphilis after initial penicillin or arsphenamine, notwithstanding unaltered current or latent positive serologic reactions.

Physicians have long known that the symptoms and signs of acute surgical emergencies of the abdomen were masked by the use of morphine and have been counseled not to use this agent until the diagnosis was made. Such examples add sense to the oft quoted complaint that medicine is a jealous mistress, imposing upon the physician a relentless preoccupation if he is to find time to inform himself regarding the rationale of new agents and methods which, in practice, often modify the cardinal symptoms customarily depended on for guidance



in therapy. In other words, we are seeing, in this age of medical miracles, the control of symptoms while the patient still harbors the somatic pathologic changes responsible for the diagnostic syndrome.

In this connection I have recently observed another condition in which the familiar symptoms are abolished, or so markedly modified by the use of a standard postoperative technic as to completely mask the grave complication. I refer to the occurrence of postoperative obstruction in a patient being subjected to constant Levine siphonage. The classical symptoms of obstruction are colicky, rhythmical, abdominal pain; nausea, or nausea and vomiting; gassy bowel distention and absolute or relative failure to expel gas and feces. The occurrence of these symptoms is dependent on the peristaltic effort of the bowel to propel liquids and gases downward against a partial or complete obstruction in the small gut. With the indwelling Levine tube, stomach and regurgitant fluids are constantly aspirated, removing the physical agents which otherwise provoke the symptoms heretofore relied upon to suggest the grave postoperative complication. Under such circumstances, silent obstruction exists with absolute or relative comfort.

Two cases have been observed within the past four months. The usual symptoms were entirely masked and the diagnosis was delayed until the eighth postoperative day in both cases. This experience, in my practice, is particularly significant because I have long appreciated the frequency of this complication and have zealously sought its signs and symptoms when delay has been experienced in getting prompt evacuation of intestinal content after operation.

In the light of this startling experience it appears imperative that, in postoperative patients in whom the surgeon finds it necessary, because of regurgitant vomiting, to

prolong beyond three days the use of the indwelling Levine tube, the cause for such contrary response be forthrightly sought. Silent mechanical obstruction should be suspected and scout films of the abdomen made to determine the distribution of intestinal gas. When the roentgenogram confirms suspicion of obstruction, the Miller-Abbott tube should be substituted for Levine suction and, where feasible, prompt laparotomy for correction of the obstruction practiced.

C. W. ROBERTS, M.D.

## II. THE POLITICAL ADVANTAGE OF OFFERING COMPULSORY SICKNESS INSURANCE

The political advantage of offering the people medical care under a national compulsory sickness insurance program is an important factor in understanding why such systems have been established in many countries. This advantage of appearing to provide a service so essential and of immeasurable value sets up a great temptation for political or commercial exploitation, or for professional "do-gooders" who have nothing (themselves) to offer except a desire to assist people who, for various reasons, have been unable to maintain a reasonable standard of living. If the politicians and social welfare proponents can, by law, control and distribute medical care under a national system, requiring only a small direct contribution from the individual, the majority of the people accept it as a benefit from the government and the social welfare proponents who administer the system.

## PHYSICIANS IN CIVILIAN PRACTICE DURING WAR URGED TO REPLY ON NEW QUESTIONNAIRE

Parallel with the advance of scientific warfare there has been a rapid advance in scientific medicine in the Twentieth Century. The huge strides made in our ability to destroy life and health in the recent war, however, have left many problems which remain to be solved. One of the most critical problems, as recognized by the House of Delegates of the American Medical Association in its December meeting, is that of providing care for the civilian population in the event of another national emergency.

The medical profession is wisely assuming its obligation to the American people to be prepared with facts and recommendations for any such future emergency. As a first step in this preparation, 5,000 questionnaires have gone out to a list of physicians, selected at random, who passed the recent war years in civilian practice.

On the basis of the answers to these questionnaires, sent out by the Committee on National Emergency Service of the A.M.A., it is hoped that facts may be determined as to how the civilian population was served in World War II. The questionnaires also provide an

opportunity for those who were responsible for civilian care in those years, to indicate what changes should be made in the mobilization of medical service in future emergencies.

Five thousand questionnaires represent a very small percentage of the total number of physicians who remained in civilian practice. Dr. Edward L. Bortz, Philadelphia, chairman of the Committee on National Emergency Service, has appealed to every physician receiving the civilian questionnaire to respond promptly. The accuracy of the facts obtained and the soundness of the conclusions made by the study will be determined to a great degree by the cooperation which those receiving the questionnaire give the committee.

The committee received excellent cooperation from the 50,616 former medical officers who were mailed questionnaires last December on their experience in military service. These are now being analyzed and studied. The facts obtained will be used as a basis for recommendations to be made by the committee in June to the House of Delegates.

With the cooperation of the 5,000 physicians who are now receiving questionnaires on their civilian experience, the committee will be able to complete the total study of how the medical profession can best serve our population, civilian and military, in the event of a future national emergency.

Every physician receiving one of these questionnaires has a professional and humanitarian duty to perform in completing it and returning it promptly. It is preferred that each sign his name, but if anyone wishes to remain anonymous, he may do so. The important thing is to get as broad a representation of facts, experiences, and opinions as possible.

#### PNEUMONIA FOLLOWING CHEST INJURY PREVENTABLE WITH PENICILLIN

Pneumonia, following injury to the chest, can be prevented with large doses of penicillin or sulfadiazine, according to Edward Phillips, M.D., of Oakland, Calif.

Writing in the January 18 issue of *The Journal of the American Medical Association*, Dr. Phillips presents his observations on 73 patients treated at Permanente Foundation Hospital for pneumonia following injury to the chest.

Of these 73 patients, 43 had fractured ribs, one had a fractured shoulder blade and one had a fractured breast bone.

The author cites two investigators who demonstrated by animal experimentation how a blow to the chest, with or without fracture of the ribs, can produce injury to the lungs. The blow stimulates the vagus nerve, which extends from the cranium to the lungs, to contract the bronchial tubes which results in a partial collapse of the lung. This collapse area becomes infected because it lacks aeration.

Injections of atropine into the veins, which paralyzes the terminal fibers of the vagus nerve, will prevent or minimize the chances of collapse and infection following injury to the chest, states the author. Large doses of penicillin and sulfadiazine will sterilize the lung area.

Additional facts regarding the 73 patients follow:

—In 54 patients (74 per cent) pneumonia developed only on the same side as the injury.

—The majority of patients had a mild type of pneumonia.

—Over 92 per cent of pneumonia cases occurred within six days of the injury.

—Over 50 per cent of the patients recovered within one week.

—Three patients died with a resultant mortality rate of 4.1 per cent.

Twenty-six consecutive patients with severe chest and lung injuries who were treated with large doses of either penicillin or sulfadiazine did not contract pneumonia or other complicating infections.

#### THE DIAGNOSTIC VALUE OF VAGINAL SMEARS

Since 1917, when Stockard and Papanicolaou introduced the vaginal smear in the study of the guinea pig's sex cycle, the horizon of this procedure's significance and implications has broadened appreciably, especially in the last decade.

The value of vaginal smears in human endocrinology has been generally accepted. At the moment, it is in the field of the diagnosis of uterine cancer that the use of the vaginal smear, and more recently, of the cervical, endocervical and endometrial smears is attracting more attention and offers much promise.

The rationale of the method is sound since it is based upon the study of exfoliated cells recovered in the secretion of the uterus, cervix, and vagina. Carcinoma is an exfoliative lesion.

Among the method's limitations, the interpretation and evaluation of the smear is perhaps the greatest. It requires the judgment and experience of one who is well acquainted with the normal and abnormal cytology of the female genital tract. Furthermore, better criteria for differentiation are not yet outlined and standardized. These may be realized when the cytologic changes associated with pregnancy, infection, endocrine dysfunctions, and cancer itself are better understood and classified. Another disadvantage of the method is that the examination of a smear consumes more time than that required for a histologic slide.

Among the advantages of the method, the following should be mentioned: The manner by which smears are obtained, fixed, and stained is uncomplicated and inexpensive, and the procedure does not require hospitalization. In the presence of abnormal cells, the smear enables one to suspect or detect carcinoma in its earliest stages and in unsuspected cases. Thus, it becomes a valuable complement to the more reliable and well-established diagnostic aids, such as biopsy and curettage. In the field of cancer prevention, it may be widely used as a screening method.

However far or near the discovery of the cause of cancer is, the early diagnosis of this implacable disease will always remain paramount. It is hoped that the vaginal smear will prove to be the invaluable aid that it promises to be in detecting carcinoma of the cervix and of the body of the uterus long before any clinical signs or symptoms are manifested. It is desirable, and perhaps imperative, that the profession acquaint itself with the technic of this procedure. Numerous articles are now available in the literature.—*Editorial, N. Y. State J. M., January 15, 1947.*

The Medical Association of Georgia will hold its Ninety-Seventh Annual Session at the Bon Air Hotel, Augusta, April 22-25, 1947. Hotel reservations should be made in advance of the meeting dates.



## GEORGIA DEPARTMENT OF PUBLIC HEALTH

### DEVELOPMENT OF A PREMATURE INFANT PROGRAM IN GEORGIA

Statistics covering the past six years show that in Georgia prematurity caused more infant deaths than any other condition or disease. It behooves us, therefore, to give a great deal of consideration, both to the prevention of premature births and to the care of the infant during labor and following birth.

TABLE 1—*Births, and Infant and Premature Deaths in Georgia, 1940-45, inclusive.*

Year	Live Births			Infant Deaths		Premature Deaths	
	Total	White	Colored	Total		White	Colored
1940	64,695	38,911	25,784	3,737	1,017	635	382
1941	67,785	41,277	26,508	3,955	1,103	676	427
1942	72,189	45,192	26,977	3,559	1,094	659	435
1943	78,327	50,149	28,178	3,661	1,124	691	433
1944	77,018	49,464	27,554	3,398	1,056	641	415
1945	74,994	47,422	27,572	3,181	960	609	351

The premature infant program is one which calls on medical, nursing, hospital and public health facilities. In order to function effectively, physicians, nurses, hospitals and health departments must act as a team in caring for the premature infant.

In 1945, with 74,994 births, we may estimate that approximately 3,700 were premature. Review of death certificates for that year shows 24 per cent of prematures died. Six years earlier, in 1940, the death rate was 31 per cent. This decrease of seven per cent shows that progress has been made but there is room for further reduction, not only in the death rate but in the occurrence of premature births as well.

The program of the Health Department has been developed along lines leading to cooperation with the physician, the nurse and the hospital.

An incubator for premature infants was developed by the Health Department around 1940. Since that time 370 incubators have been placed on a permanent loan basis. Most of these have gone to hospitals or to local health departments. Those in local health departments and regional offices are available to physicians upon request. While the ideal is to have all prematures delivered in hospitals, this is not always possible in rural areas and it is sometimes desirable to set up the incubator in the home.

In order to help with this procedure, our public health nurses have been trained in premature care. A number of them have received post-graduate work in pediatric nursing. Supervisors, in each of the six regions of the State, have also received this training. These supervisors are always willing to direct both public health nurses and institutional nurses in the nursing care of the premature infant.

For additional aid, the Georgia Department of Public Health published a pamphlet, "The Premature Baby" which may be used as a nursing manual.

In addition to training 23 public health nurses, 10 scholarships have been granted institutional nurses for courses either in pediatric nursing or in care of the premature.

The chance of survival of the premature infant increases enormously in relationship to the birth weight. According to Hess, the infant under 1,000 grams has a 15.5 per cent chance of survival with 87.2 per cent for the infant weighing

2,000 to 2,500 grams. It behooves us, therefore, to prolong uterine life as long as possible. Good prenatal care is the most important means of doing this and should consist not only of medical care but education of the mother as well.

In the program of the State Health Department, educational literature has been developed for the prospective mother. "Maternal Care", the "Georgia Baby Book" and other pamphlets have been distributed by means of the private practitioner, through the Health Department and directly upon the written request of the patient. In addition to literature, mothers' classes were held by the nurses in the local health departments where simple procedures are taught the mother for care of herself and baby, better preparing her to receive her baby at home.

Also, prenatal clinics have been held for cases to be delivered by midwives. These clinics have been conducted by local clinicians, and are operated under the approval and guidance of the local medical profession.

Nurses have made home visits to patients reporting to maternal and child health conferences, and in many instances private physicians have called on public health nurses to visit the homes of their private patients to gather information concerning the patients or their environments. This service bridges a gap that has developed between patient and physician since the day when the family doctor was intimately acquainted with the family lives of most of his patients.

A nutrition education staff is being developed so that public health departments may have guidance in their nutrition program. One function of this staff is to help arrange nutrition demonstrations, to be used in mothers' classes and maternal and child health conferences.

In addition to educational programs for nurses and patients, the State Health Department has cooperated with the Pediatric Seminar at Saluda,



N. C., in furnishing scholarships to commissioners of health and clinicians conducting maternal and child health conferences. Reports of physicians who have attended the seminar show that they are enthusiastic regarding the refresher course there.

Plans are under way at the present time to establish a premature training center for nurses in one of our larger hospitals, in order that nurses in this area may receive their training in Georgia. In the past it has been necessary for Georgia nurses to go out of the State for specialized training in premature care or in pediatric nursing.

With continued improvement in medical care, broadening of the public health program, extension of hospital facilities and dependable nursing service, the premature baby of the future may look forward to a greater chance of survival.

GUY V. RICE, M.D., *Director,*  
Division of Maternal and Child Health,  
Georgia Department of Public Health.

DR. WETMORE, SMITHSONIAN SECRETARY,  
PRAISES ARMY MEDICAL DEPARTMENT  
EXHIBIT

The Army Medical Department Exhibit at the Smithsonian Institution is the outstanding one in this field that has been shown in recent years, according to a recent statement by Dr. Alexander Wetmore, secretary of the Smithsonian Institution.

"This exhibit," Dr. Wetmore said, "gives the public a graphic idea of modern methods in military medicine in World War II."

For the first time the public has been invited to see this exhibit which is in the North Foyer of the National Museum of Natural History of the Smithsonian Institution at 10th and Constitution Avenue, N.W., Washington, D. C., between the hours of 9 a.m. and 4:30 p.m. daily including Saturdays and Sundays.

Major General Norman T. Kirk, the Surgeon General, said that this showing, covering virtually the entire field of medicine, is the finest ever presented to the public on military medicine.

It depicts the work of the 14 chief divisions of the Army Medical Department. The triumphs of modern medicine are colorfully illustrated with scenes revealing how the American Army was able to establish new records in health and the lowest death rates in any war in history.

Motion pictures, which previously have been restricted to medical groups, will be shown to the public. The premier of this exhibit was at the American Medical Association's annual convention last June in San Francisco. It has also been displayed before medical groups in Philadelphia, Cleveland, Detroit and Miami.

#### ARMY APPEALS FOR MORE NURSES

Appointment of 300 nurses who have not had prior military service in the Army of the United States in the grade of Second Lieutenant has been authorized by the War Department. Because of the acute shortage of nurses authorization for additional nurses will be made as soon as 80 per cent of the quota is filled. The appointment will be for the duration and six months thereafter, or for a period of 18 or 24 months. There is no provision for appointments in the Regular Army Nurse Corps until legislation is enacted to establish the corps for peace-time operations; however, nurses accepting tem-

porary appointment in the Army of the United States will be considered for transfer to the Regular Army provided they qualify. Graduate registered nurses under 34 years of age, single, or widowed without dependents under 14 years of age and in good physical condition who are interested in Army Nursing should apply to the Surgeon General's Office, Pentagon, Washington 25, D. C., for application blanks. Under the recall program World War II nurses who volunteer and meet the requirements will be recalled in the grade in which they served just prior to reporting to a Separation Center. Nurses without prior military service will be appointed in the Army of the United States in the grade of Second Lieutenant. Nurses required by the Army at this time will serve as replacements at home and in all foreign stations for those who will become eligible during the next two months for separation from the service. The base pay of a Second Lieutenant is \$180.00 per month plus 70 cents a day for subsistence. An initial uniform allowance of \$250 is authorized upon appointment. Quarters are provided without reduction from salary. If quarters are not provided a rental allowance of \$45 is given to Second Lieutenants. Further information concerning Army service will be submitted upon request to the Surgeon General's Office.

#### VENEREAL CONTROL COUNCIL ESTABLISHED

The War Department announced recently the establishment of a Venereal Disease Control Council for the purpose of insuring that all possible control measures are employed and to reduce the rate of venereal disease in the Army.

The council will meet each month to consider venereal disease problems as they affect service personnel, develop standard educational and control measures, and review control procedures adopted in the field. In addition, it is authorized to take immediate corrective action when reports indicate the existence of unsatisfactory conditions that are beyond the control of the local or Army commander and to establish policy for reduction and control of venereal disease based on appropriate research studies, surveys and field experience. It will also coordinate and assist the Joint Army and Navy Disciplinary Control Board on disciplinary problems related to venereal disease control.

Major General Willard S. Paul, Director of Personnel and Administration, has been designated as chairman of the council.

#### "COURAGE AND DEVOTION BEYOND THE CALL OF DUTY"

Through the cooperation of Mead Johnson & Company \$34,000 in War Bonds are being offered to physician-artists (both in civilian and in military service) for art works best illustrating the above title, as applied to physicians in war and in peace.

This contest is open to members of the American Physicians Art Association and will be judged June 9-13, 1947, at the Atlantic City Session of the American Medical Association. For full details, write Dr. F. H. Redewill, Secretary, Flood Building, San Francisco, Calif., or Mead Johnson & Co., Evansville 21, Ind.

#### VETERANS' NEWS

Over 137,000 veterans or dependents of veterans now are wards of Veterans Administration.

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Only one out of every 4,500 GI home loans guaranteed by Veterans Administration has been defaulted to date.

\* \* \*

A total of 667 veterans are receiving pensions from Veterans Administration under special acts of Congress.

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The number of World War II veterans soared over the 14,000,000 mark in December, according to Veterans Administration estimates.

## Woman's Auxiliary to the Medical Association of Georgia

### WOMAN'S AUXILIARY NEWS

At the last meeting of the Woman's Auxiliary to the Southern Medical Association, Mrs. Olin S. Cofer, of Atlanta, was elected president for next year. Her qualifications are excellent and she knows the work thoroughly. She has held the office of vice-president and of treasurer and has been on the executive board for ten years, serving as chairman of numerous committees and as councilor. Mrs. Cofer has been president of the Woman's Auxiliary to the Fulton County Medical Society, to the Fifth District, and to the Medical Association of Georgia. She is a charter member of the Woman's Auxiliary to the Fulton County Medical Society, and was present when the Auxiliary to the Southern Medical Association was formed in New Orleans. She has also served in the capacity as president in numerous civic organizations.

The Eighth District Auxiliary met at the Cloister Hotel at Sea Island with Mrs. J. R. Ray, president, presiding. Words of welcome were given Mrs. Johnson of Brunswick, and the response was given by Mrs. DeLoach of Waycross.

Dr. Ralph Chaney, of Augusta, was guest speaker and talked on "The Great Problems of the Medical Profession." Mrs. Howard Moore, of Brunswick, gave an informative talk on "The Objectives of the Auxiliaries." Valdosta reported that the doctors' wives were organizing, and Brunswick reported they had recently organized.

The Glynn County Auxiliary served refreshments in the afternoon and in the evening the Eighth District doctors and their wives were guests of the Glynn County Medical Society at a delightful sea food dinner.

Mrs. Conway Hunter died November 3, 1946, at her home after a long illness.

Mrs. William Campbell died November 19, 1946, following an operation.

MRS. JEFF L. RICHARDSON.

### Organization

An organization is the uniting of a group of people with a common interest for a common good or goal. It is usually formed for strength, because a group of people working together for the same thing is much stronger than the same number of people working separately for the same thing.

An organization is necessary for such a group as the doctors' wives, for together there is no end to the good they may accomplish for their husbands, for themselves and for their communities. The organization may be small, but two people can do more together than they can working singly, and no matter how small a local unit is, it is part of the national one. In these organizations we have strength and power; without them we are weak and almost useless in our field. To know the wisdom of organizations we have only to look about us. The government is a most successful, most detailed organization; the churches are organized; politics is organized; the military forces were most efficiently organized to bring about peace; labor never accomplished anything until it was organized; the farmer is finally coming into his own because he has learned the value of organization.

Therefore, we must organize for our own protection, strength and aims. We can use our individual ideas and talents for the good of all of us. In unity we can accomplish what each of us wants singly in our field. And an organization with one purpose, as ours is, is an ideal one, because we can work without the diverting, weakening calls and influences of outside affairs. We have a perfect aim, we need an increase in membership, both in quantity and in quality; therefore we cannot fail to form a splendid and strong organization that will bring great pleasure and satisfaction to us and cause excellent results and lasting benefits to all.

MRS. W. G. ELLIOTT.

## COUNTIES REPORTING FOR 1947

*Barrow County Medical Society*

President—R. E. Burton, Kingston  
 Vice-President—H. B. Bradford, Cartersville  
 Secretary-Treasurer—A. L. Horton, Cartersville  
 Delegate—W. E. Wofford, Cartersville  
 Board of Censors—W. E. Wofford, H. B. Bradford, and William B. Quillian, Jr.

*Carroll-Douglas-Haralson Counties Medical Society*

President—B. C. Powell, Villa Rica  
 Vice-President—C. H. Allen, Bremen  
 Secretary-Treasurer—Wm. P. Downey, Tallapoosa  
 Delegate—O. D. King, Bremen  
 Alternate Delegate—W. Steve Worthy, Carrollton  
 Board of Censors—O. D. King, and R. E. Hamilton

*Cherokee-Pickens Counties Medical Society*

President—Charles R. Andrew, Jr., Canton  
 Vice-President—Arthur M. Hendrix, Canton  
 Secretary-Treasurer—Robert T. Jones, III, Canton  
 Delegate—C. J. Roper, Jasper  
 Alternate Delegate—Arthur M. Hendrix, Canton  
 Board of Censors—R. M. Moore, T. J. Vansant, and C. J. Roper

*Coffee County Medical Society*

President—George M. Ricketson, Douglas  
 Vice-President—Sage Harper, Douglas  
 Secretary-Treasurer—J. E. Morris, Douglas  
 Delegate—Dan A. Jardine, Douglas  
 Alternate Delegate—Sage Harper, Douglas  
 Board of Censors—T. H. Clark, Douglas

*Dougherty County Medical Society*

President—M. B. Bowman, Albany  
 Vice-President—W. Frank McKemie, Albany  
 Secretary-Treasurer—J. M. Lucas, Albany  
 Delegate—J. M. Barnett, Albany  
 Alternate Delegate—W. S. Cook, Albany  
 Board of Censors—P. L. Hilsman, Frank E. Thomas, and Paul T. Russell

*Emanuel County Medical Society*

President—S. S. Yomans, Swainsboro  
 Vice-President—D. D. Smith, Swainsboro  
 Secretary-Treasurer—C. E. Powell, Swainsboro  
 Delegate—R. G. Brown, Swainsboro  
 Alternate Delegate—C. E. Powell, Swainsboro  
 Board of Censors—R. G. Brown, D. D. Smith, and C. E. Powell

*Greene County Medical Society*

President—F. H. Killam, Greensboro  
 Vice-President—W. H. Lewis, Siloam  
 Secretary-Treasurer—T. H. McGuire, Union Point  
 Delegate—F. H. Killam, Greensboro

*Meriwether-Harris Counties Medical Society*

President—J. A. Johnson, Manchester  
 Vice-President—James A. Johnson, Jr., Manchester  
 Secretary-Treasurer—R. B. Gilbert, Greenville  
 Delegate—V. H. Bennett, Gay  
 Alternate Delegate—J. A. Johnson, Manchester

*Mitchell County Medical Society*

President—M. W. Williams, Camilla  
 Vice-President—James C. Pirkle, Pelham  
 Secretary-Treasurer—D. P. Belcher, Pelham  
 Delegate—J. C. Brim, Pelham  
 Alternate Delegate—C. L. Howard, Pelham

*Morgan County Medical Society*

President—J. L. Porter, Rutledge  
 Vice-President—J. H. Nicholson, Madison  
 Secretary-Treasurer—W. C. McGeary, Madison

*Spalding County Medical Society*

President—Augustus H. Frye, Jr., Griffin  
 Vice-President—J. T. Giles, Griffin  
 Secretary-Treasurer—Alex P. Jones, Griffin  
 Delegate—H. J. Copeland, Griffin  
 Alternate Delegate—T. O. Vinson, Griffin  
 Board of Censors—Geo. L. Walker, H. R. Perkins, and J. T. Giles

*Tattnall County Medical Society*

President—A. C. Colson, Glennville  
 Vice-President—L. V. Strickland, Cobbtown  
 Secretary-Treasurer—W. C. McCarver, Jr., Glennville  
 Delegate—L. R. Jelks, Reidsville  
 Board of Censors—J. C. Collins, J. M. Hughes, and A. G. Pinkston

*Taylor County Medical Society*

President—Lewis Beason, Butler  
 Vice-President—F. H. Sams, Reynolds  
 Secretary-Treasurer—R. C. Montgomery, Butler  
 Delegate—F. H. Sams, Reynolds

*Tift County Medical Society*

President—W. F. Zimmerman, Tifton  
 Vice-President—Carl S. Pittman, Jr., Tifton  
 Secretary-Treasurer—Richard K. Winston, Tifton  
 Delegate—Carl S. Pittman, Jr., Tifton  
 Alternate Delegate—Richard K. Winston, Tifton

*Tri County Medical Society*  
(Calhoun-Early-Miller Counties)

President—R. R. Bridges, Leary  
 Vice-President—C. K. Sharp, Arlington  
 Secretary-Treasurer—J. G. Standifer, Blakely  
 Delegate—J. G. Standifer, Blakely  
 Alternate Delegate—C. K. Sharp, Arlington

*Walton County Medical Society*

President—John Gerdine, Jersey  
 Vice-President—Philip R. Stewart, Monroe  
 Secretary-Treasurer—Samuel J. DeFreese, Monroe  
 Delegate—M. W. Anderson, Social Circle  
 Alternate Delegate—Homer Head, Monroe

*Ware County Medical Society*

President—Lewis H. Oden, Jr., Blackshear  
 Vice-President—B. E. Collins, Waycross  
 Secretary-Treasurer—L. W. Pierce, Waycross  
 Delegate—W. F. Reavis, Waycross  
 Alternate Delegate—W. L. Pomeroy, Waycross  
 Board of Censors—B. R. Bussell, W. M. Flanagan, and H. A. Seaman

*Warren County Medical Society*

President—H. B. Cason, Warrenton  
 Vice-President—F. L. Ware, Warrenton  
 Secretary-Treasurer—A. W. Davis, Warrenton  
 Delegate—H. T. Kennedy, Warrenton  
 Alternate Delegate—F. L. Ware, Warrenton

*Wayne County Medical Society*

President—J. A. Leaphart, Jesup  
 Vice-President—Thos. G. Ritch, Jesup  
 Secretary-Treasurer—E. C. Leaphart, Jesup  
 Delegate—J. Lawton Tyre, Screven  
 Alternate Delegate—J. W. McFarlane, Jesup

## VETERANS' NEWS

February 1, 1947, was the deadline for veterans to reinstate lapsed National Service Life Insurance without a physical examination by payment of premiums for two months, Veterans Administration said.

\* \* \*

Over 400,000 veterans already have converted their National Service Life Insurance to Government 20-payment life valued at more than 1.7 billion dollars, Veterans Administration said.



## NEWS ITEMS

The Bibb County Medical Society held its meeting at Ridley Hall, Macon, January 7. Program: "Clinical Significance of the Rh Factor in Obstetrics", by Dr. W. K. Jordan, Macon. Dr. A. M. Phillips, secretary.

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Dr. Adolphus Bray, Jr., Dalton, recently released from the Army Medical Corps, having served in the Philippine Islands, announces the reopening of his office at Dalton for the practice of general medicine.

\* \* \*

Dr. Claude C. Brooks, formerly of Harlan, Kentucky, announces the opening of his office at Soperton for the practice of medicine.

\* \* \*

Dr. Hayes Cluxton, Savannah, recently left for Detroit, Mich., where he will be on the staff in the department of neurosurgery, Henry Ford Hospital. He plans to return to Savannah in the near future.

\* \* \*

Dr. Edgar Boling, Atlanta, announces the limitation of his practice to surgery of the colon and rectum; office Doctors Building, Atlanta.

\* \* \*

The Cobb County Medical Society, Marietta, recently elected the following officers for 1947: Dr. L. G. Garrett, Austell, president; Dr. W. G. Crawley, Marietta, vice-president; Dr. A. O. Colquitt, Marietta, secretary-treasurer; Dr. R. W. Fowler, Marietta, delegate, and Dr. W. C. Mitchell, Smyrna, alternate delegate, to the annual meeting of the Medical Association of Georgia at Augusta.

\* \* \*

The Crawford W. Long Memorial Hospital staff dinner meeting was held in the hospital dining room, Atlanta, January 9. Program: "Herniated Discs in the Cervical Region as a Common Cause of Brachial Neuritis", by Dr. Exum Walker, with case discussions. A business meeting and election of officers for 1947 followed the program.

\* \* \*

Dr. Abe J. Davis, Augusta, Richmond County Commissioner of Public Health, was named a fellow in the American Public Health Association. The distinction for Dr. Davis was voted at the association's convention in Cleveland last November.

\* \* \*

Dr. A. W. Davis, Warrenton, has been appointed as department surgeon for the Georgia Department of the American Legion, Commander John R. Williams, of Valdosta, recently announced. Dr. Davis, who has been one of the most active legionnaires in Georgia for the past 25 years, is a past vice-commander of the department and past commander of the Tenth District. He is serving at present as commander of Warrenton Post No. 96.

\* \* \*

Dr. J. R. Edenfield, a native of North Augusta, has begun the practice of medicine, and is associated with Dr. F. A. Kennedy, with offices in Langley, S. C., and Augusta. Since his discharge from the U. S. Navy, Dr. Edenfield has been taking additional surgical training at the United States Veterans Hospital, Columbia, S. C.

\* \* \*

Dr. L. M. Freedman, Atlanta, was recently elected president of the staff of St. Joseph's Infirmary. The election took place at the annual staff meeting. Other staff officers elected were: Dr. L. B. Dunn, Atlanta, vice-president, and Dr. W. B. Crawford, Jr., Atlanta, secretary. The officers were elected for one year.

\* \* \*

Dr. Chester A. Fort, Atlanta, announces that he has resumed his association with Dr. M. K. Bailey 1106 Medical Arts Building, Atlanta. Practice limited to urology.

\* \* \*

Dr. Schley Gatewood, Americus physician, was elected

chairman of the Sumter-Schley District, Boy Scouts of America, at the annual district meeting held in the Youth Center, December 9.

\* \* \*

The Fulton County Medical Society held its annual banquet at the Biltmore Hotel, Atlanta, January 16. Program: Call to order by the president; Installation of officers; Induction of new members 1946; Awarding of 25-year Membership Certificates; Inaugural address by the president; Announcement of committees; Music and entertainment. Officers for 1947: President, Dr. R. Hugh Wood; President-elect, Dr. Walter W. Daniel; Vice-President, Dr. Fred F. Rudder; Board of Trustees (three-year term), Dr. Hal M. Davison; Judicial Council, Dr. Mason Baird; Delegates: Dr. H. Walker Jernigan, Dr. A. O. Linch, Dr. Mark S. Dougherty, Dr. Edgar H. Greene, Dr. J. G. McDaniel, Dr. Philip Nippert, Dr. Eustace A. Allen, Dr. R. Hugh Wood, Dr. Walter W. Daniel, Dr. McClaren Johnson. Alternate delegates: Dr. Chas. E. Dowman, Dr. Marion Benson, Jr., Dr. Hugh Hailey, Dr. Lamont Henry, Dr. L. Minor Blackford, Dr. B. L. Shackelford, Dr. R. Carter Davis, Dr. J. D. Manget, Jr., Dr. John R. Walker, Dr. Chas. F. Stone, Jr. Banquet committee: Dr. Russell Burke, chairman; Drs. Vernon E. Powell, W. S. Dorrough, Harry Rogers, Dewey Nabors, Mason Baird, C. W. Strickler, Jr., Henry Poer, Minor Blackford, and H. Walker Jernigan.

\* \* \*

The Georgia Medical Society held its regular meeting at the society's hall, 612 Drayton Street, Savannah, January 14. Topic: "Psychiatry as Applied to the General Practice of Medicine", by Dr. A. A. Center. Officers for 1947 are: President, Dr. J. C. Metts; President-elect, Dr. Monroe J. Epting; Vice-President, Dr. Oscar Lott; and Secretary-treasurer, Dr. G. H. Johnson, Jr.

\* \* \*

The Georgia Baptist Hospital Medical Staff held its annual banquet in the Nurses' Home Dining Room, Atlanta, January 17. The Hospital Commission served as hosts. An excellent program was presented.

\* \* \*

Dr. John S. Gibson, Atlanta, Lt. Colonel, U. S. Army, retired, announces the opening of offices, 22 Brighton Road, N.E., Atlanta. Practice limited to dermatology and minor surgery.

\* \* \*

Dr. J. E. Griffith, Rockmart, discharged after serving three years as a major with the U. S. Army Medical Corps, announces his association with Dr. G. M. White, Rockmart, where he will resume his practice of medicine.

\* \* \*

The Georgia Medical Society held its regular meeting at the society's hall, 612 Drayton Street, Savannah, January 23. Program: "Paraminobenzoic Acid in the Treatment of Virus Diseases", by Dr. A. J. Waring, Jr.

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Dr. Leonard J. Hahne, Savannah physician, has re-enlisted in the United States Navy and has received a commission as commander. Commander Hahne on his first enlistment entered the Navy in 1941 as a lieutenant and was subsequently promoted to his present rank. He served in the Atlantic and Pacific theaters during the war. He is presently stationed at the Navy Yard in Charleston, S. C.

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Dr. Laura L. Lipscomb, Atlanta, announces the opening of her office at 663 West Peachtree Street, N.E., Atlanta. Practice limited to pediatrics.

\* \* \*

Dr. Walter T. Revell, Louisville physician, has returned to his practice of medicine at Louisville, after a three-months' special study of obstetrics and gynecology at the University of Maryland, Baltimore.

\* \* \*

As a tribute to Dr. A. C. Little, the members of the South Georgia Medical Society honored him at a seated

dinner, January 14, at the Daniel Ashley Hotel, Valdosta, in appreciation of his years of service to the medical profession of Valdosta and South Georgia. The wives of the members of the society were guests on this occasion. Dr. Frank Thomas, in behalf of the society, presented Dr. Little with a handsome silver tray as a token of appreciation.

\* \* \*

Dr. and Mrs. S. T. Ross, Winder, celebrated their fifty-fifth wedding anniversary on November 18. The occasion commemorates not only their wedding anniversary, but also the birthday of Dr. Ross, who was born on November 18, 1867.

\* \* \*

Dr. George W. Straight, Savannah, resident surgeon of the Central of Georgia Railway Hospital, has been named as medical officer for the 118th Field Artillery, Lt. Col. Walton S. Van Arsdale, commanding officer, announced recently. Dr. Straight's position carries with it the rank of captain in the National Guard. Dr. Straight was recently discharged from the Medical Corps of the Army with the rank of captain.

\* \* \*

The Phoebe Putney Hospital medical staff and the Dougherty County Medical Society in a joint session at the hospital, Albany, December 3, elected Dr. J. Z. McDaniel to head the staff and Dr. Berry Bowman, president of the medical society. The meeting followed a dinner when the staff and members of the Albany-Dougherty County Hospital Authority were entertained by the hospital. Other officers of the hospital staff include Dr. W. M. Feild, vice-president, and Dr. E. A. James, secretary. Heads of the departments remained unchanged with the exception of the x-ray department, of which Dr. R. C. Pendergrass, Americus, recently was named to take charge. Dr. J. A. Redfearn remains in charge of the medical department; Dr. J. M. Barnett is surgery department head; Dr. J. C. Keaton, the department of neurology; Dr. Lillian Ingram, the department of pediatrics, and Dr. R. N. Thomas is in charge of obstetrics. The medical society met immediately following the adjournment of the staff meeting and elected, in addition to Dr. Bowman, Dr. Frank McKemie, vice-president, and Dr. I. M. Lucas, secretary-treasurer.

\* \* \*

Dr. Sam Talmadge, Athens surgeon, and a veteran of World War II, recently addressed the meeting of the Reserve Officers Association, in the Military Building on the University of Georgia campus. Dr. Talmadge discussed the operations of Army Medical Corps units in support of combat operations.

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Dr. C. N. Wasden, Macon, has been elected to the newly-created post of chief of staff of Macon Hospital, it was recently disclosed by Dr. C. L. Ridley, superintendent in an announcement of the 1947 staff and associates. Dr. Olin H. Weaver was re-elected president of the staff; Dr. J. C. Anderson was re-elected vice-president, and Dr. Leon Porch was named secretary. The staff by divisions follows: Surgery—H. G. Weaver, M. B. Hatcher, R. G. Newton, L. D. Porch, C. E. McMillan, C. N. Wasden, W. D. Jarrett, and C. F. Cooper. Medicine—H. C. Atkinson, D. Hazlehurst, T. L. Ross, S. E. Patton, and L. James. Gynecology—J. C. Anderson, Frank Houser, R. W. Edenfield, Fred Branon, Ray Suarez, W. W. Baxley and C. H. Richardson, Jr. Obstetrics—O. R. Thompson, W. K. Jordan, J. P. Holmes, Roland Brown, Evelyn Swilling. Genito-urinary—W. L. Bazemore, W. R. Golsan, and R. W. McAllister. Pediatrics—C. Hall Farmer, Edwin R. Watson, R. C. Goolsby, Charles Rumble, W. C. Boswell, and Charlotte Newburg. Orthopedics—W. A. Newman, and John I. Hall. E.N.T.—R. W. Richardson, W. L. Barton, and E. M. Pope. Cancer—Thos. Harrold, M. B. Hatcher, Max Mass, R. M. Reifler, R. W. Edenfield, and C. H. Richardson, Jr. Proctology—A. M. Phillips. Ophthalmology—C. K. McLaughlin. Pathology and Radiology—Max Mass.

Dr. Duncan Shepard, Atlanta, announces the removal of his office to 663 West Peachtree Street, N.E., Atlanta. Practice limited to surgery.

### SHOCK PATIENTS NEED WHOLE BLOOD

"Adequate timely replacement of blood was an exceedingly important factor in the reduced mortality of battle casualties admitted to hospitals in World War II," according to Howard E. Snyder, M.D., of Winfield, Kan.

Writing in the January 25 issue of *The Journal of the American Medical Association*, Dr. Snyder states that observation and laboratory investigations revealed that transfusions of whole blood rather than of plasma, the liquid portion of the blood, were needed for battle casualty patients suffering from shock.

"The advantages of adequate blood replacement with whole blood are manifold," states the author. "Mortality from shock is lowered. Prolonged adequate surgical intervention is possible when the replacement of blood is adequate. Operations which lasted three to five hours were not uncommon; in a number of instances they lasted even longer with satisfactory results. In the early days a few wounded persons lost their lives because surgical intervention was inadequate or was cut short due to the patient's poor condition and to the fact that gas gangrene later developed in an undebrided wound (one from which contaminated tissue had not been removed) or one inadequately debrided. It reduces morbidity. It permits early radical reparative surgical operations."

In conclusion the author points out that "lessons learned in the management of battle casualties insofar as the replacement of blood is concerned have their application in civilian surgical practice."

### PRODUCTION AUDIT

Manufacturing concerns at the beginning of the year have an audit made on the production capacity of their organization. It is obvious that any good production procedure must have a periodic check-up. Doctors are no exception. If a professional man is not satisfied with his accomplishments, with the quality of his practice or with the quantity, it might be well to attempt a self-analysis. Here are a few questions which may be of some assistance in this self-audit:

1. What amount of professional reading have I done in the last year or so?
2. How many clinics or conventions have I attended to keep abreast of the times?
3. Am I making full use of the knowledge at my disposal?
4. Have I attempted any long range planning?
5. Do I enjoy giving service for service's sake?
6. Am I willing to postpone minor desires in the interest of future major "wants"?
7. Do I radiate confidence to the extent that other people feel they can be secure with me?
8. Do my habits, office, personal appearance, and character register an impression of stability?
9. How many things do I do or say that make others smile and cement friendships?
10. Am I open to new ideas of my colleagues?
11. How many professional contacts do I have?
12. Do I attempt to cultivate new contacts?
13. Have I lost any professional contacts, and if so, how?



14. Are my contacts made on the basis of personal likes and dislikes—similar interests—professional attainment?
15. Do I take sufficient interest in civic affairs?
16. Can I contribute anything to any special group which they would appreciate?
17. Do I treat every case as indicating personal interest, or as "just another case"?
18. How much do I remember about my patients that I can recall in a conversation to indicate my interest?
19. Have I been too reticent in talking frankly about fees to my patients?
20. Has this self-audit developed one point of weakness?

These are a few of the necessary elements which make up a successful practice.

—*Bulletin, Physicians' and Dentists'*  
Credit Bureau, Atlanta, January, 1947.

### VETERANS' NEWS

Veterans may appeal adverse Veterans Administration rulings on their claims for benefits to the Administrator of Veterans Affairs.

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More than half of the 93,918 patients hospitalized by Veterans Administration are veterans of wars other than World War II.

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Veterans Administration hospitals under construction at Tomah, Wis., and Lebanon, Pa., are scheduled to be completed within six months.

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Of the 93,918 veterans hospitalized by Veterans Administration on December 31, 1946, a total of 62,718 were nonservice-connected cases, and 31,200 were service-connected.

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Nine out of every 14 veterans of World War II have not applied yet for any type of education or job training under the federal laws administered by Veterans Administration.

### OBITUARY

*Dr. Joseph R. Burdett*, aged 84, beloved Tennille resident and one of Washington County's leading physicians, died December 9, 1946. Dr. Burdett was a native of Wilkes County, but moved to Tennille when quite a young man to study under the late Dr. T. J. Beck and to read medicine with the late Dr. M. C. Hatch prior to his entering college. Following his graduation from the University of Georgia in 1885, where he won second honor in a class of 129 and was a member of Delta Tau Delta fraternity, he entered Bellevue Hospital Medical College in New York, and graduated in 1889, returning to Tennille to practice his profession. For many years he was surgeon for the Central of Georgia and W. & T. railroads. He was a member of the Washington County Medical Society and the Medical Association of Georgia. During his long years of service Dr. Burdett truly lived up to his creed, working for the good of mankind, thus he merited the love and esteem of the people of the entire county. Surviving are the following children, Joe R. Burdett, Jr., Jacksonville, Fla.; Miss Mary Burdett and Thomas Burdett, Tennille; Mrs. Albert Hasten, Brundidge, Ala.; Mrs. H. F. Kurtz, Macon, five grandchildren and one brother. Funeral services were held at the Baptist Church, of which he was a member, with Dr. Aquilla Chamlee, Fort Valley, officiating, assisted by Rev. B. A. Winburn and Rev. James Reese. Burial was in Zeta Cemetery, Tennille.

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*Dr. Bernard McHugh Cline*, aged 66, well known Georgia eye, ear, nose and throat specialist, died

unexpectedly at his Atlanta residence January 26, 1947. Dr. Cline was the son of the late Peter J. Cline, merchant of Milledgeville and Macon, and was graduated from the Atlanta College of Physicians and Surgeons, now Emory University School of Medicine, Atlanta, in 1905. He had studied in Vienna, Austria, and had taken a six months' course in the use of the bronchoscope under Chevalier Jackson, world renowned genius in perfection of the instrument. His internship was spent at Grady Hospital, Atlanta, after which he practiced in Milledgeville and Atlanta. He was chief of the eye, ear, nose and throat clinic at Grady Hospital for many years, and served as a staff member of St. Joseph's Infirmary and the Georgia Baptist Hospital.

Dr. Cline gave of his time and money to the State Sanatorium. He was owner of a farm at Milledgeville, and his horses were used by underprivileged children. He was a member of the Fulton County Medical Society, the Medical Association of Georgia, a fellow of the American Medical Association, the Kiwanis Club, the Nine O'Clocks, the Piedmont Driving Club, and the Sacred Heart Catholic Church. Survivors are five sisters, Mrs. John T. Tarleton, Atlanta; Mrs. Frank B. Florencourt, Arlington, Mass.; Mrs. E. F. O'Connor, Misses Mary G. and Katie L. Cline, all of Milledgeville; four brothers, Louis I. and Herbert A. Cline, both of Atlanta; Frank Cline, Monroe, La., and John J. Cline, Shreveport, La., and several nieces and nephews. Funeral services were held at the Milledgeville Sacred Heart Catholic Church. The Rev. John Toomey officiated, and burial was in the Milledgeville Cemetery, Milledgeville.

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*Dr. William Dabney Gholston*, aged 76, prominent Danielsville physician and former member of the State General Assembly, died in an Athens hospital December 17, 1946. A native of Madison county, Dr. Gholston was graduated from the University of Georgia School of Medicine, Augusta, in 1900, and entered the practice of medicine in his home county, continuing that profession until the time of his final illness. He was a member of the Clarke-Madison-Oconee Counties Medical Society, the Medical Association of Georgia, a fellow of the American Medical Association, and the Danielsville Methodist Church. He was for many years Sunday school superintendent, chairman of the board of stewards, and was active in all the affairs of his church. He was a past president of the Clarke-Madison-Oconee Counties Medical Society, and was secretary of the Tenth District Medical Society at the time of his death. He was one of the most highly respected members of his profession, being held in great esteem by both his fellow practitioners as well as his patients. Surviving is a daughter, Mrs. R. E. Adair, Thomasville; son, J. B. Gholston, Millen; two granddaughters, Seleeta Adair and Stephenia Gholston, and a grandson, Gholston Adair. Funeral services were held at the Danielsville Methodist Church, with the pastor, Rev. J. B. Ward, and Rev. B. W. Hancock, Atlanta, officiating. Members of the Clarke-Madison-Oconee Counties Medical Society and the Athens Lions Club served as an honorary escort. Burial was in Danielsville Cemetery.

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*Dr. Thomas Dick Longino*, aged 100, doctor to Atlanta's physical ills and civic needs for many years, died only a few months after his 100th birthday, January 28, 1947. Born September 7, 1846, six miles from Palmetto in old Campbell County, Dr. Longino returned to Palmetto to practice medicine when he had completed training at the University of Georgia School of Medicine, Augusta, and Jefferson Medical College, Philadelphia. He was the oldest living graduate of both medical schools. It was during his years at Palmetto that Dr. Longino first became active in civic work, when he served as mayor of Palmetto. After coming to Atlanta in 1886, he practiced medicine in West End and served as mayor of West End, when that suburb was a separate corporation from Atlanta. He served seven years on Atlanta's city council, and was at one time mayor pro-tem. He origi-



inated the city's first health department, and brought the first resolution before the council for a one-million-dollar bond issue. Dr. Longino joined Wheeler's Calvary shortly after the Battle of Atlanta. He was 18 years old at the time. After the war he was fervent in following Wheeler's command to "go home and make good citizens". He was an honorary member of the Fulton County Medical Society, of the Medical Association of Georgia, and was a member of the Park Street Methodist Church. Dr. Longino was the son of John Thomas Longino and the former Miss Elizabeth Brewster. He was married to Miss Nellie Candler. After her death, he married Miss May Harrington, who survives him. In addition to his wife, he is survived by three sons, Brig. General Olin H. Longino, Bradenton, Fla.; Hinton F. Longino, and Joseph W. Longino, both of Atlanta. Funeral services were held at the graveside, with the Rev. Virgil L. Moore officiating. Burial was in West View Cemetery, Atlanta.

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*Dr. Roger Atkinson Mallory*, aged 84, retired Concord physician, died at the home of his son, 2010 Ridgewood Drive, N.E., Atlanta, December 15, 1946. Dr. Mallory was a native of Brunswick County, Virginia. He graduated from the Southern Medical College, Atlanta, now Emory University School of Medicine, in 1884. He had practiced medicine in Concord and Pike County for 56 years. After serving the community for 40 years he was given a gold watch honoring him for his faithful service. He was a member of Spalding County Medical Society, the Medical Association of Georgia, and the First Methodist Church of Concord. His wife, the former Miss Mary Rodgers of Americus, died two years ago. He is survived by two sons, E. A. Mallory, Atlanta; R. A. Mallory, Jr., Concord; and a grandson, Edward A. Mallory, Jr., Atlanta. Funeral services were held at the First Methodist Church with Dr. E. G. Mackay, Atlanta, and the Rev. C. B. Drake, and the Rev. Wilson Walker, both of Concord, officiating. Burial was in Magnolia Cemetery, Concord.

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*Dr. David Ferguson*, aged 53, physician and member of a prominent Milledgeville family, died at his home on West Washington Street, August 19, 1946. He had been in ill health for several months. He graduated from Emory University School of Medicine, Atlanta, in 1914. A former Naval medical officer, Dr. Ferguson retired a few years ago after 30 years' service. He was a member of the Baldwin County Medical Society, the Medical Association of Georgia, and a fellow of the American Medical Association.

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*Dr. Jesse G. McAfee*, aged 83, beloved Dalton physician and surgeon, died of pneumonia December 28, 1946. Dr. McAfee was a native of Whitfield County; born February 22, 1863, the son of the late Dr. and Mrs. J. R. McAfee. He was a graduate of the Atlanta Medical College in 1888, now Emory University School of Medicine, and served his internship in Atlanta and at Columbia University, New York City. For 60 years he was a practicing physician and surgeon in Dalton. At the time of his death he was chairman of the local Water, Light and Sinking Fund Commission, which handles public utilities for Dalton. He formerly served as mayor of Dalton, having been elected to the office six times. He was a member of the Whitfield County Medical Society, the Medical Association of Georgia, a fellow of the American Medical Association, a member of the Dalton Civic Club and the First Methodist Church. His wife, Mrs. Bertie Crouch McAfee, died in 1942. Survivors include two daughters, Mrs. Janice McAfee Meadows, Dalton; Mrs. Wm. K. Hall, Fort Worth, Tex.; a sister, Mrs. W. R. Cannon, Dalton; four granddaughters and three grandsons. Funeral services were held at the First Methodist Church, with the pastor, Rev. Henry H. Jones, officiating. Burial was in West Hill Cemetery, Dalton.

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*Dr. Lewis N. Osborne*, aged 79, retired country physi-

cian of Jackson County, died at his home, 1091 Stewart Ave., S.W., Atlanta, January 15, 1947. A native of Franklin County, Dr. Osborne attended Young Harris College, and was graduated from the University of Georgia School of Medicine, Augusta, in 1898. He was married to Miss Mattie Cochran of Banks County, the same year of his graduation, and took his bride to Jackson County, where there was only one other doctor. One of the horse-and-buggy doctors who considered no grandsons. Funeral services were held at the First distance too far to travel to the sick, he was forced 20 years ago to retire to a limited practice in Atlanta after 30 years' practice that kept him on the go as much as 20 hours a day. He was an active member of the Capitol View Methodist Church, and was a former steward in the Jackson County Methodist Church. He was also a Mason. He is survived by a daughter, Miss Peggy Osborne; two sons, J. A. and L. N. Osborne, all of Atlanta; a sister, Miss Odie Hayes, of Canton, and four grandchildren. Funeral services were held from the Capitol View Methodist Church, with the Rev. H. C. Stratton and the Rev. C. H. Hancock officiating. Burial was in West View Cemetery, Atlanta.

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*Dr. Roy Clayton Smisson*, aged 54, beloved Fort Valley and Peach County physician, died in a Macon hospital, December 20, 1946, as result of injuries received in an automobile accident near Taylor Mill, while answering a professional call. Dr. Smisson was a native of Peach County, the son of Mr. and Mrs. B. F. Smisson, of Fort Valley. He received his education at Stone Mountain Preparatory School, at Emory University, and graduated from Vanderbilt University School of Medicine, Nashville, Tenn., in 1916, and had practiced medicine in Fort Valley for the past 24 years. During World War I he served overseas as an Army medical officer. He was a member of the Bibb County Medical Society, the Medical Association of Georgia, was a fellow of the American Medical Association, a member of St. Andrew's Episcopal Church, the Fort Valley Board of Education, chairman of the Peach County Board of Health, the American Legion, the Macon Elk's Club, and was a Mason and a Shriner. He is survived by his wife, the former Miss Mary G. Smith, Talhott; two sons, Roy Clayton Smisson, Jr., student of the University of Georgia, and William B. Smisson, Gordon Military College; his parents, Mr. and Mrs. B. F. Smisson, two brothers, Hugh and Louis Smisson, all of Fort Valley; a sister, Mrs. Wynelle Smisson Jordon, Honolulu, Hawaii; and several nieces and nephews. Funeral services were held at the Fort Valley Methodist Church. The Rev. Walter D. Roberts, minister of St. Andrew's Protestant Episcopal Church, officiated. Burial was in Oaklawn Cemetery, Fort Valley.

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*Dr. Lucius N. Todd*, aged 56, physician in charge of the Wilhenford Tuberculosis Wing of the University Hospital, Augusta, died December 12, 1946, after an extended illness. Dr. Todd, who won a high place as a specialist in his profession, graduated from the University of Georgia School of Medicine, Augusta, in 1915. After his internship he practiced his profession away from Augusta until he returned in 1938 to become professor of tuberculosis at the University of Georgia School of Medicine. In 1942 he was put in charge of the tuberculosis wing of the hospital when it was opened. A life-long member of St. John's Methodist Church, he was for many years a member of the board of stewards and was for four years its secretary. He also was a member of the Richmond County Medical Society, the Medical Association of Georgia, a member of the National Tuberculosis Association, and a fellow of the American College of Physicians. Surviving is his wife, Mrs. Christine Stephens Todd, a brother, Wm. P. Todd, and a sister, Miss Beulah H. Todd, all of Augusta. Funeral services were held at Elliott's Funeral Chapel, the Rev. J. S. Thrailkill, pastor of St. John's Methodist Church, officiating. Burial was in Westover Memorial Park, Augusta.

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### PEPTIC ULCER

#### *A Review of Present-Day Treatment*

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Despite the usual gratifying results of adequate treatment, and the extensive study it has received, peptic ulcer is still one of the great incurables of medicine. As such, it is worth our consideration.

In a short period of time we cannot completely cover a subject so inclusive as peptic ulcer. Consequently my remarks will primarily be a review of present-day treatment, with "a lick and a promise" at the etiology, symptoms, and pathology of this condition.

It is important that we have a clear understanding of the pathogenesis, for thereupon the treatment is fundamentally based. According to the view of Best and Taylor<sup>1</sup>, the dominant factor in the development of ulcer is the digestive action of the pepsin-hydrochloric acid of the gastric juice on the bowel wall. The great majority of ulcers are situated in areas bathed in this secretion. Patients with duodenal ulcer usually have increased secretory activity of the gastric glands, producing an increased quantity of gastric juice with a high hydrochloric acid content; while patients with gastric ulcer usually have a normal, or somewhat less than normal, hydrochloric acid level. The majority of parietal or acid-secreting glands in the stomach are situated in the middle two-thirds. With this in mind it is not sur-

prising that the majority of gastric ulcers are found in the pyloric region on the lesser curvature, or on the anterior or posterior walls nearby; more rarely high on the lesser curvature and on the greater curvature, and never in the dome of the fundus. The so-called stomal ulcers of gastrojejunostomy are found at the margin of the anastomosis. Occasionally ulcer develops in the cardiac end of the esophagus, into which the acid gastric juice frequently regurgitates. Duodenal ulcers are almost always found in the first inch of the cap, usually on the anterior or posterior wall. Occasionally they are found in the second and third portions of the duodenum, but when the gastric juice reaches this level it has usually been alkalized by the bile and the pancreatic juice.

Other factors involved in pathogenesis depend principally upon their influence upon gastric secretion, or direct trauma to the mucosa. Cushing<sup>2</sup> was the first to stress the importance of nervous influences, his view being that anxiety, apprehension and similar nervous states stimulate the parasympathetic center in the hypothalamus, with the impulses passing along the vagus nerve. He felt that these stimuli were responsible for the hyperemia and hypersecretion of the gastric glands, and also for increased motor activity. This view was later confirmed by the work of Beattie<sup>3</sup> and of Keller and his associates<sup>4</sup>. Tobacco smoking appears to exert some influence, probably through the stimulant action of nicotine upon the ganglion cells, with stimuli passing along the postganglionic fibers, producing hypersecretion and motor disturbances. The trauma of coarse, irritating



foods, and bacteria, with possible emboli in the stomach mucosa, have also been considered as etiologic factors. The recent report of Tasu Wen Li and Freeman<sup>5</sup> suggests the possibility that protein deficiency may be another factor involved.

There is no satisfactory explanation as to why the normal stomach does not digest itself. It has been suggested by different authors that the mucus which covers the mucosa presents a protective coat; or that the increased alkalinity of the blood in the gastric tubules, due to the loss of chloride ions, combats the acidity of the gastric juice. Another theory is that the gastric mucosa contains an enzyme—antipepsin—which protects it from digestion. The peptones of proteose digestion may also have a protective action.

With these physiological principles in mind, it is reasonable that the treatment be directed toward neutralizing the effect of the gastric juice, and controlling the factors involved in hypersecretion, hypermotility, and mechanical irritation. This is done by the elimination of coarse fibrous foods, of such foods as meats, condiments, and by the elimination of alcohol and tobacco all of which induce hypersecretion of gastric juice; by the frequent feeding of foods with high hydrochloric acid combining power, and foods which stimulate the flow of alkaline bile and pancreatic juice; by the ingestion of antacids to neutralize gastric acidity, and other drugs which slow gastric secretion and motility; by the elimination as nearly as possible of tension, anxiety, fatigue, and other elements of the psychogenic factor.

The food of choice in the treatment of ulcer is milk which has been fortified by the addition of cream up to one-fourth or one third of the total volume. The milk itself has a high hydrochloric acid combining power. The cream raises the caloric value, stimulates the flow of bile and pan-

creatic juice, which may to some extent regurgitate into the stomach, thus helping to neutralize the acid gastric juice, and to slow gastric motility. This combination has a normal balance between protein, carbohydrate and fat, and has adequate vitamin and mineral supplies, with the exception of vitamin C. The latter can be added with fruit juices after the acute symptoms have subsided. An occasional patient cannot tolerate whole milk due to milk sensitivity or some digestive disturbance. In this case various substitutes may be tried. The addition of ten to fifteen grains of sodium citrate, or a dram of lime water in six ounces of milk, may help. Patients who cannot tolerate whole milk may take boiled milk or dilute evaporated milk without difficulty. As a substitute for milk powdered gelatin, sixteen grams to six ounces of water, or six ounces of orange juice with the whites of two eggs, is satisfactory. While gelatin and the orange-juice-albumin mixture do not have the high acid combining power of milk, they will usually render the patient symptom-free when used in combination with adequate antacid therapy. Cereal gruels to which cream has been added, creamed rice and creamed soups, with the exception of tomato and onion, are also substitutes of value. Instead of the cream, which in these times is frequently impossible to obtain in adequate quantities, a whole raw egg put in the milk four to six times a day has, in my experience, been most satisfactory. It is high in lipoid content, and the average patient will have less digestive disturbance than with the rich milk and cream mixture. Also he will usually tire less readily of the monotonous diet.

The various antacids deserve consideration. According to the summary of Bockus<sup>6</sup> the soluble compounds produce the most prompt relief from pain, and exert a neutralizing effect. Of these, sodium bicarbon-



ate is the most efficient. However, it alkalizes the gastric juice and thus produces delayed hypersecretion. If its administration is prolonged it may produce alkalosis and resulting interference with urea excretion, particularly in those patients with arteriosclerosis and with renal damage. It has the added disadvantage of producing a more firm combination between hemoglobin and oxygen of the circulating blood, with a resulting tissue anoxemia. Magnesium oxide and magnesium carbonate, used in large doses, possess most of the disadvantages of soda bicarbonate. They are, however, the most efficient neutralizers, weight-for-weight, and may be used in small doses to advantage. Their laxative effect is desirable. Calcium carbonate, tribasic calcium and magnesium phosphate, sodium and potassium citrate, while not as efficient neutralizers as bicarbonate, bring the solution to neutrality and not to alkalinity. They, therefore, do not have the disadvantage of late hypersecretion. Of this group, calcium carbonate, while it has only about two-thirds of the neutralizing power of bicarbonate of soda, is very effective. This alkali, in combination with small doses of magnesium oxide, is the basis of the old Sippy treatment, and is still one of the best combinations available. The bismuth salts have little neutralizing effect, but are helpful in the healing of the ulcer, possibly by stimulating the production of mucus, or by slowing intestinal motility.

The nonsoluble antacids include colloidal aluminum hydroxide and colloidal aluminum phosphate. These substances have the advantage of very little absorption, and therefore little effect upon the carbon dioxide combining power of the blood. In sufficient doses they will neutralize gastric acidity, but unless used with a food of high acid combining power must be employed in large doses. They delay emptying time,

and should not be used in the presence of gastric stasis. In combination with gastric juice, these compounds form aluminum chloride, which, in the absence of alkali (consequently, in biliary or pancreatic insufficiency), may prove irritating to the intestinal tract. The usual dose is one-half ounce, every one to two hours. In my experience, one ounce every hour during the acute activity has proven more satisfactory.

Magnesium trisilicate has two desirable factors. First, prolonged action, 75 per cent being utilized in the first hour, the remaining 25 per cent over the next three or four hours at a steadily diminishing rate. This has the virtue of lasting over the entire period of gastric digestion. Second, it has adsorptive powers far surpassing aluminum hydroxide, magnesium oxide and calcium carbonate. It must be given in doses of two to three grams every third or fourth hour to completely neutralize a moderately high acidity of the gastric juice. If the acidity exceeds this, it may be necessary to give the same dose every two hours.

Other drugs, such as atropine and belladonna, or their substitutes, are useful for their depressant effect on the overactive vagus. They may be used in combination with barbiturates for sedative effect, or may be combined with papaverin in doses of one-half to two grains in very nervous patients, and in those with intractable pain.

The following special measures are noted primarily for their historic value. The work of Weiss and Aron<sup>7</sup> popularized the use of histidin (Larostidin) parenterally. However, other workers were unable to confirm their conclusions, and this treatment has largely been discarded. The use of non-specific proteins and of vaccine therapy proved of little value. Radiation therapy over the stomach in doses large enough to produce hyposecretion has given satisfactory results in the hands of some workers.

However, this is not without danger to the surrounding abdominal viscera and, according to Palmer<sup>8</sup>, should be reserved for rare intractable cases and possibly for those having a severe ulcerative gastritis.

The typical ulcer story is a familiar one. The patient frequently gives a history of stomach trouble from five to twenty years, with a list of physicians and treatment regimens so long and varied that he has lost confidence in doctors generally, and in his ability to get well. He is anxious and apprehensive. His principal symptom is gnawing pain in the upper abdomen, coming on thirty minutes to four hours after meals and usually exhibiting food and alkali relief. When such a patient presents himself to my office, the following routine is used. His physical and emotional status are summarized from a standpoint of history, physical, and laboratory examination. His gastrointestinal tract is studied fluoroscopically, with films of any questionable areas, and by gastric analysis. If the lesion is in the stomach, every effort is made to determine whether it is benign or malignant.

#### *Uncomplicated Ulcer*

In the event the patient is proven to have an uncomplicated ulcer, he is brought into the office and told something about his condition. He is told that, whether he likes it or not, he is stuck with a problem that will give him trouble for an indefinite period of time. He is promised, however, if he will follow his treatment religiously he will obtain very prompt relief from his symptoms. He is advised that while his condition is one which has a tendency to recur, these recurrences can usually be controlled by dieting strictly no more than two or three weeks in the year. By the same token that a diabetic must learn something about diabetes, he is told that he must become a specialist in the treatment of ulcer. It is explained that nervous tension, alcohol, cigarettes, and

certain foods produce increased amounts of the gastric juice which is responsible for his trouble, and that these elements will have to be controlled and eliminated.

The following dietary regimen has proven satisfactory: Six to eight ounces of whole milk every hour on the hour. A raw egg is beaten up in the milk four to six times daily as a substitute for cream. Every hour on the half hour, two capsules of trisogel (Lilly), each containing aluminum hydroxide one and one-half grains, and magnesium trisilicate four and one-half grains, are prescribed. If there is difficulty with gaseous distention, with nervousness or anxiety, a quarter grain each of belladonna and phenobarbital is given at three to four hour intervals. This routine is followed from the time the patient wakes in the morning until bedtime. I would now like to stress the importance of night feedings. It is obvious that uncontrolled night secretion will undo a great deal of the healing accomplished by the frequent daily feedings. Consequently, whether he is comfortable at night or not, the patient is waked every three hours for four ounces of milk and two trisogel capsules. On this regimen the patient almost invariably experiences prompt relief from pain with consequent improvement in his mental attitude and sense of well-being. The only complaint usually heard is hunger, due to the fact that the stomach is never overloaded at one time. However, the patient will as a rule gain weight and can easily be reassured that he is having an adequate food intake.

After two weeks the milk feedings are given at two-hour intervals with the antacid capsules given on the alternate hour. At this time the juice of two oranges diluted with equal parts of water is added daily. Cooked cereals, Jello, gelatin, Junket, baked or boiled custard, tapioca, and milk toast are added to the dietary. They may be

used as a substitute for, or in addition to milk feedings. At six weeks he is allowed three meals a day at the usual time, with milk feedings between meals and at bedtime. Such foods as melba toast, soft-boiled or poached egg, creamed soups, with the exception of onion and tomato, clear meat broth, breast of broiled or baked chicken, and the lean portion of lamb chops are added at this time. The antacid capsules are continued between feedings. The patient is advised to stay out from work for the first two weeks of the treatment. However, he is allowed to be up and around and go where he likes, provided he takes the milk mixture and the antacid capsules on schedule. In my experience, the average patient is better off when he not put to bed. He creates independence, and is less resentful of his strict dietary. At the end of two weeks he is allowed to return to work, provided he can do so and continue his treatment schedule. At the end of three months the antacid is discontinued, and the patient is allowed to take a more liberal diet, provided he has been continuously symptom-free. He is, however, kept on bland foods with the milk feedings between meals and at bedtime for approximately six months.

It is quite true that a less strict regimen will render the average patient symptom-free, but the prompt and gratifying results of this routine, to my mind, entirely justify the means. I know of no group of patients who are more grateful or more loud in their praise of the physician than ulcer patients who have been relieved of their symptoms. So much for uncomplicated ulcer.

### *Bleeding Ulcer*

Of the complications, bleeding is the most frequently encountered. The present trend is definitely toward immediate feeding rather than temporary starvation, followed by cautious feeding. To mention two

recent reports, Chaikin and Tannanbaum<sup>9</sup> report their mortality in bleeding ulcers reduced from 6.9 per cent to 3.3 per cent by initial feeding. Eichhorn<sup>10</sup> also concludes that immediate feeding results in a greatly lowered mortality rate, a shorter hospital stay, and greater comfort for the patient. This, to my mind, is reasonable, since healing and the termination of bleeding go hand-in-hand. In recent years continuous intragastric drip with dilute milk mixtures or antacids has been popular, but in my hands it offers no advantage over small frequent feedings, and is a great deal more difficult to control.

Bleeding patients who come to operation should be selected as early as possible, usually if the bleeding is not controlled within forty-eight to seventy-two hours.

### *Perforation*

The recovery rate in perforated ulcer is in inverse proportion to the length of time between the perforation and operation, consequently the sooner the operation the better. However, all perforations do not require a laparotomy. Those along the posterior wall of the duodenum will frequently cause no contamination of the peritoneal cavity, and will respond more satisfactory to medical management. Frequently pinpoint perforations will seal over with very little spillage and conservative management again is the procedure of choice.

### *Obstruction*

In pyloric obstruction, medical management should be tried. Again, the sooner treatment is instituted the better. A strict feeding regimen with frequent drainage, or alternate feedings and drainage through an indwelling intragastric tube, are the more accepted procedures. If the total drainage is not satisfactorily diminished at the end of four days, surgical intervention should be considered. Subtotal gastrectomy may be tried if the patient's condition justifies



the risk. If not, the more conservative gastroenterostomy is done.

### *Malignant Ulcer*

Approximately 10 per cent of all gastric ulcers are malignant. Any gastric lesion deserves most careful examination for malignant change. The task of differentiation is not easy. Walters<sup>11</sup>, reviewing patients of gastric malignancy proven by operation at the Mayo Clinic, states that one-third presented the symptom complex commonly thought of as pathognomonic of benign gastroduodenal ulcer. Eusterman<sup>12</sup>, in discussion of this subject, pointed out that small ulcerating carcinomas may not only be indistinguishable from benign gastric ulcer, but in response to ulcer treatment may display roentgenologic and even gastroscopic evidence of healing. X-ray examination is, of course, invaluable. However, in skilled hands gastroscopic examination is probably the best single method of differentiation between benign and malignant ulcer. Every lesion in the stomach should have the benefit of this examination. The treatment for operable gastric malignancy is immediate total or subtotal gastrectomy.

### *Surgery*

Surgical treatment of ulcer should be approached cautiously. Surgery is no cure-all, since the patient must submit to essentially the same medical management following surgery as before. The indication should rest solely upon the disease and the clinical picture of the ulcer patient. According to Bockus<sup>13</sup>, the clear-cut indications stated briefly are as follows: (1) Gastric ulcer niche, in association with true achlorhydria, usually is an ulcerating carcinoma. (2) X-ray demonstration of an ulcerating lesion projecting from the greater curvature. In this location the ulcer craters are most often malignant. (3) The demonstration of an ulcer crater distal to the incisura angularis,

particularly on the posterior wall or the greater curvature side. If this lesion does not decrease in size on medical management, it should be explored. (4) The duodenal ulcer associated with deformity of the pylorus or antrum due to erosive or ulcerative gastritis, is rarely permanently cured by medical management. (5) Perforated, walled-off gastric or duodenal ulcer which does not respond to prolonged medical management. Healing may not occur, because it is impossible for the scar to retract owing to attachment to the base of the pancreas, liver, or lesser omentum. (6) The patient with continuous marked hyperchlorhydria. In these patients repeated recurrence is common. (7) The occasional benign uncomplicated ulcer which does not respond to prolonged adequate medical treatment.

Subtotal gastrectomy is usually the procedure of choice. It removes a major portion of the acid secreting gastric mucosa. While recurrences do occur, they are less frequent than with the more conservative gastroenterostomy, and the incidence of gastrojejunal lesions is to a large extent eliminated. The mortality rate is somewhat higher than in the more conservative measures, reports from various clinics being from 1.5 to 3 per cent. Subtotal gastrectomy is probably not the last word. Mage<sup>14</sup> reports 502 cases of benign ulcer treated by this procedure. From 1923 to 1940 the recurrence rate is known to have been 8 per cent, and follow-up was not obtained in all cases.

In closing I should like to call attention to the more recent approaches to the ulcer problem. First the work of Co Tui and his associates<sup>15</sup> at New York University, who have an interesting series of patients treated with a combination of amino-acids and dextri-maltose. They report striking clinical improvement in ulcer symptoms and the general health of the patient. In time this

may prove to be of value in treating intractable ulcer. But the results did not impress me as being enough better than those with the regimen here outlined to indicate its use with the average patient.

Ivey and his associates in the Department of Physiology, Northwestern University Medical School<sup>16</sup>, by the parenteral administration of the mucosal extract from the upper intestine of swine, which they believe to contain a hormone enterogastrone, were able to protect hypersensitive Mann-Williamson dogs from the occurrence of gastrojejunal ulcer. The protection was not limited to the period during which the extract was being administered, but was also observed to extend for periods of as long as two years after administration was terminated. He believes that enterogastrone, or some other substance of the mucosal extract, reduces secretory activity. He also suspects the therapy increases the resistance of the mucosa to ulceration. He has not been able to prepare enterogastrone in crystallin form, consequently the doses used in his human experiments were much smaller than those used for dogs. His patients were chosen because they could never be entirely relieved from distress on strict ambulatory management. On 12 patients he used enterogastrone alone with no medical treatment. All but two were relieved from distress in one week, and the other two received marked relief shortly thereafter. Among a total of 21 patients who received three injections weekly from seven to twelve months, only four, or approximately 20 per cent, had one period of distress. In three of these the distress was slight. The expected recurrence in this group, on the basis of past history, was reduced from 21 to four in a six months' period. What these patients will do under further observation, or with larger dosage, remains to be seen. It is an encouraging start.

Also of interest is the work of Dragstedt and his associates<sup>17</sup> in the Departments of Medicine and Surgery at the University of Chicago. It is based on the surgical division of the vagus secretory fibers. Having found that the abdominal approach was impractical, he removed the seventh or eighth rib on the left side, opened the pleural cavity, retracted the lung upward and opened the parietal pleura over the esophagus side. The esophagus was freely mobilized and the vagus fibers isolated, standing out as cords against the soft muscle tissue of the esophagus. Both the right and left vagus were divided just above the diaphragm. The proximal portion of the nerves was then pulled out into the pleural cavity and fastened with silk sutures. In 11 patients, the basis of his report, he states that relief from ulcer distress has been very striking and uniformly persistent. It occurs immediately, or within a few days after operation. There was no interference with peristalsis, and no evidence of cardiospasm or other complications of consequence. Following this operation the continuous night secretion was reduced by over 50 per cent in all cases, and in many cases to a still greater degree. He feels that this operation will ultimately find a place in the treatment of the intractable ulcer. This procedure, however, is not one to be performed by the average general surgeon and the operation is still too new to accurately evaluate. Other men are already questioning their ability to obtain Dragstedt's results.

It is to be hoped that these measures, with others to be developed in the future, will soon take peptic ulcer out of the incurable class.

#### REFERENCES

1. Best, C. H., and Taylor, N. B.: *Physiological Basic Medical Practice*, Baltimore, Williams & Wilkins Company. ed. 3, p. 742.
2. Cushing, H.: Quoted by Best & Taylor.
3. Beattie: Quoted by Best & Taylor.
4. Keller: Quoted by Best & Taylor.
5. Tsau-Wen Li., and Freeman, S.: Frequency of "Peptic" Ulcer in Protein Deficient Dogs, *Gastroenterology* 6: 2-140.

6. Bockus, H. L.: *Gastroenterology*: Philadelphia, W. B. Saunders Company. vol. 1, p. 452.
7. Weiss and Aron: Quoted by Bockus.
8. Palmer, W. L.: Quoted by Bockus.
9. Chaikin, N. W., and Tannanbaum, O.: *Am. J. Digest Diseases*, 9:150, 1942.
10. Eichhorn, J. P.: *Am. J. M. Sc.* 203: 428. 1942.
11. Walters, W.: *Arch. Surg.* 44: 520. 1942.
12. Eusterman, George: *J.A.M.A.*, 118: 1, 1942.
13. Bockus, H. L.: *Gastroenterology*: Philadelphia, W. B. Saunders Company. vol. 1, p. 480.
14. Mage, S.: *Ann. Surg.* 116: 729, 1942.
15. Co Tui, et al: *Hyperalimentation Treatment of Peptic Ulcer with Amino Acids and Dextri-Maltose*, *Gastroenterology*, 1: 5.
16. Ivey, A. C.: *The Prevention of Recurrence of "Peptic" Ulcer, An Experimental Study*, *Gastroenterology*, 6: 443.
17. Dragstedt, L. R.; Palmer, W. L., Schafer, P. W., and Hodges, P. C.: *Supradiaphragmatic Section of Vagus Nerves in the Treatment of Gastric and Duodenal Ulcers*, *Gastroenterology*, 6: 450.

## THIOURACIL IN THE TREATMENT OF TOXIC GOITER, AND ITS DANGERS

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Thiouracil is a new drug which has come into use in the past three years for the treatment of thyrotoxicosis. Extravagant claims were made for it in the beginning, and many internists and surgeons hastened to try it on their patients. Some results were good and some were tragic. After three years of experimentation we have collected sufficient data to properly evaluate this drug, and to know its limitations and its dangers.

Since January 1946 thiouracil has been made available to the medical profession by prescription, and it seems timely to clarify the conditions under which it should be employed.

It was just three years ago that Astwood published his first article on the treatment of hyperthyroidism with thiourea and thiouracil. The former was discarded as not being practical, and the manufacturers placed a supply of thiouracil in the hands of selected men throughout the country for experimental purposes. We have had a

supply of thiouracil for the past two and one-half years, have used it in a limited number of cases, and wish to add our bit to the many other reports on the subject. Our general information on this subject has come mostly from the large clinics.

This drug now has been used in several thousand cases and it is now thought safe to place it on the market to be used by the profession at large. In reading the literature on the subject it appears that we now have an understanding of the general nature of its antithyroid action, and an increasing recognition of its value for combating the thyrotoxic state, and for reducing its use to a safe level.

It is thought that thiouracil acts by blocking the acinar cell of the thyroid, thereby stopping a production of its active principle, thyroxin. As the thyroxin diminishes a hyperplasia of the acinar cells develops and the thyroid gland enlarges and softens. A change in the body metabolism occurs only when the supply of thyroxin is used up, which explains the apparent delay in the action of the drug. No matter how large a dose of thiouracil is used it requires three to four weeks for it to cause any appreciable change in the patient's symptoms. The drug is rapidly absorbed from the intestinal canal and is eliminated in the urine in forty-eight to seventy-two hours. It is better to give small doses repeated three times daily, usually beginning with 0.1 gram three times a day, and you may give as high as 0.6 gram daily. When larger doses are given it may cause fatal complications, so larger doses offer no special advantage. It usually requires six or eight weeks of treatment before clinical improvement is noticed, though the patient may report feeling better earlier.

As improvement is noted the dose should be reduced gradually from 0.6 of a gram daily to 0.4 gram and later, after the basal



metabolism reading has reached normal, a small maintenance dose of 0.1 to 0.2 gram is continued. Some investigators have used this drug for medical treatment only, and have kept patients on it for two years or more, while others use it only to prepare the patients for surgery. It has been shown that when the drug was discontinued after six months or less, 90 per cent of the patients had a recurrence of symptoms. It is still too early to tell what will happen to the other 10 per cent of patients. The drug acts both on toxic-diffuse and toxic-adenomatous goiters, but has no effect whatever and should not be used on the non-toxic type of goiter.

In many of the larger clinics where it has been used extensively in the past two or three years, conclusions have been reached that its most valuable use is to prepare the patient for surgery. In fact, this was the final decision of the Medical Director of Lederle's Laboratories, one of the manufacturers, after summarizing the thousands of reports sent to him.

Thiouracil acts clinically by reducing the basal metabolism reading, thereby making thyroidectomy safer for the patient. In many instances it causes the thyroid gland to enlarge and increases its vascularity and friability, which makes operation more difficult. It has been found that by giving iodine in the form of Lugol's solution to the patient for the last two weeks of the treatment with thiouracil, that it hardens the gland and reduces the vascularity, and hence the bleeding at operation. It is best to stop the thiouracil a week before operation to avoid complications at the time of the operation.

We have used thiouracil routinely to prepare patients for surgery, and always use it in combination with iodine therapy.

Thiouracil is not without its dangers. At first larger doses were given and there have

been a large number of deaths reported due to agranulocytosis, and even smaller doses may cause this complication in some patients. Other cases have shown a distressing drop in leukocytes, or leukopenia. Patients who have had the drug previously and have relapsed seem especially susceptible.

Agranulocytosis is the outstanding unfavorable reaction; drug fever ranks second. The fatalities in the former are approximately 26 per cent, and this complication occurs in two or three per cent of the patients treated. Certain individuals apparently are susceptible to thiouracil, and some suddenly and without warning develop agranulocytosis with infections around the mouth, face and neck, with a very low leukocyte count and practically an absence of the polymorphonuclear cells. Other patients develop chills and fever with sore throat and malaise without change in the blood picture, while others may develop an urticaria or skin eruption, and some have hepatic damage with jaundice; others show psychotic manifestations, lymph node enlargements, salivary gland disorders, oral sepsis, albuminuria and hematuria, myxedema, dermatitis, joint pains, nausea and abdominal cramps, edema of the extremities, purpura, diarrhea, and secondary anemia. These side reactions occur in 13 per cent of the patients treated. Patients who develop these side reactions should be considered sensitive to the drug, and the drug should be discontinued at once. In view of such toxicity, it is doubtful if thiouracil will ever supplant surgery in the treatment of thyroid disease.

Thiouracil, like all good drugs, is a dangerous one and may kill three out of one hundred people, if it is not properly used. The use of the drug should be confined to those thoroughly familiar with its dangers. Twenty per cent of patients taking thioura-

cil develop complications, 10 per cent develop serious complications, and 3 per cent may die. Of 160 cases of agranulocytosis following the use of this drug, 26 patients died.

While taking thiouracil the patient should be kept under close observation with frequent basal metabolism readings and frequent leukocyte counts. Personally, we require patients to come in once a week and, to insure their coming, give them only a week's supply of tablets. A blood count is made once a week, and a basal metabolism reading is made every two weeks. We instruct them that in the case of certain symptoms to see us at once. If there is a drop in leukocytes and especially in the poly count, the drug should be dropped and penicillin with crude liver extract and vitamins should be given until the patient's blood has returned to normal. This treatment apparently aids in restoring most of the patients to normal again, and it prevents infection while the natural barriers are low.

The most dangerous period in the use of thiouracil appears to be in the fourth to the eighth week period, but the period may be reduced to two weeks if the patient has had the drug previously. The use of the sulfonamides at the same time as thiouracil appears to predispose to agranulocytosis.

Among other complications in the use of thiouracil is myxedema. Reveno reported several cases in which the basal metabolism reading dropped to minus 14, to minus 17, to minus 27, and to minus 32. This is likely to occur in toxic-diffuse goiters, and to a less extent in toxic adenomas. He found that by leaving off the thiouracil and by giving small doses of thyroid substance, the patient promptly recovered from the myxedema, but the thyroid toxemia returned. And the ridiculous thing is that he continues the thiouracil and the thyroid substance, both to counteract each other, and he

reports 12 patients taking both drugs. It seems to us that it would be much simpler to remove surgically the offending toxic goiter.

It is a well known fact that one of the most spectacular results in surgery is the recovery of a patient with toxic goiter following adequate surgery.

The aim in preparing a patient for surgery is to have the patient in optimum physiologic equilibrium. One should not be content to have him in a state merely adequate to withstand the operative procedure.

It has been our custom in recent years to do a total thyroidectomy in all cases of acute diffuse-toxic goiter. The entire gland is involved and if any of the gland is left the patient is just that much toxic, so in the majority of instances there will be a recurrence of symptoms, even after the second and third operation, until a total thyroidectomy is performed. Secondary operations are much more difficult for the surgeon and also very much more dangerous to the patient, so most of the complications we have had have been in those patients who had recurrences with secondary operations.

Contrary to the usual opinion, myxedema does not always follow total thyroidectomy, except in growing children. Many adults do very well without any thyroid gland, and especially if that gland is toxic. Occasionally we find it necessary to give small doses of thyroid substance following total thyroidectomy, but patients who have suffered from thyrotoxicosis state they would much rather take a small pill occasionally than to have to put up with the continued toxic symptoms of thyrotoxicosis.

In cases of diabetes with hyperthyroidism, the results of treatment by thiouracil are variable. In adenomas the results are slower than in diffuse-toxic goiter. In cases of recurrent toxic goiter the results are fair,

but after patients take the drug for two years and then omit it the symptoms often recur and finally total thyroidectomy is necessary. In iodine-fast patients or in patients who have been taking iodine for a long time, the effect of thiouracil is delayed and is not so satisfactory as in patients who have had no iodine previously.

It is a well established fact that Lugol's solution begins to lose its maximum effect within two or three weeks. While a mildly toxic patient may be stabilized within this time, a severely toxic one will have only the "edge taken off" the severity of his symptoms. Any untoward operative incident, such as profuse hemorrhage, may be poorly tolerated and may precipitate a crisis. Likewise, cardiac complications and severe nutritional complications will not be corrected in the short time available with lugolization.

Thiouracil, on the other hand, can be taken long enough so that weight loss may be corrected, heart failure controlled, fibrillation restored to regular rhythm, and a sense of well-being created. Restlessness, vasomotor disturbances, tachycardia and anxiety disappear. Many of the effects of thyrotoxicosis are due to liver damage, and with thiouracil the liver function tests return to normal.

The difference between two or three weeks' preparation with iodine alone, and the six or eight weeks with thiouracil followed by iodine, is equivalent to the difference between having a patient in a state of adequate or one of optimum preparation. Since the thiouracil converts the thyrotoxicosis into a completely benign goiter, by reducing the basal metabolism reading to normal, the operation becomes a much less dangerous procedure.

Specific indications for the pre-operative use of thiouracil (followed by iodine) are as follows:

1. Severe hyperthyroidism in nodular or diffuse toxic goiter. This includes cases with basal metabolism readings above 50 plus, a serum cholesterol under 180 mg., and a pulse rate averaging 100 or more and not responding to bed rest. It is well not to rely on the basal metabolic reading alone, but to take into account the entire clinical picture.

2. Cases of hyperthyroidism with complications; namely:

- a. Cardiac involvement, such as heart failure or auricular fibrillation. This should include arteriosclerotic and rheumatic as well as thyrotoxic heart disease.

- b. Malnutrition, specifically with a weight loss of more than 15 pounds, and particularly if the loss has been rapid.

- c. Severe psychomatic disturbances, such as daily crying spells.

- d. Definite exophthalmos with lid-lag and lack of convergence.

- e. Infection. Cases such as bronchiectasis or cholecystitis, where the inflammatory process must be controlled before the thyroidectomy is performed. During this period thiouracil medication can be maintained indefinitely.

- f. Severe diabetes, polyarthritis; and tumors elsewhere in the body, such as bleeding uterine fibroids.

- g. Pregnancy.

Thyroidectomy should be postponed until the complication is corrected.

3. Patients who have failed to respond adequately for surgery by the use of Lugol's solution alone. Many such patients have had iodine over long periods of time without completely controlling the toxic symptoms. Under these conditions surgery is considered. Polar ligations and stage operations are usually not necessary when these cases are prepared with thiouracil.

4. Recurrences. Recurrent nodular goiter should be dealt with by surgery. An operation for recurrence is technically hazardous, and if thyrotoxicosis is present the patient is entitled to the advantages of thiouracil preparation.

5. Old age. Patients over 65, even with mild thyrotoxicosis, warrant preparation with thiouracil.

*Contraindications for the use of thiouracil.* Its use is not necessary in nontoxic goiter, whether nodular or diffuse colloid type. Patients have been referred for thiouracil therapy because of a very large gland, or a gland which is substernal and which is producing pressure symptoms on the trachea or on the recurrent laryngeal nerve. These factors by themselves, without the presence of hyperthyroidism, do not warrant the use of an unpredictable drug like thiouracil. Furthermore, in such instances where excision should be accomplished as soon as possible, a slow acting medication like thiouracil may be inadvisable; and finally thiouracil sometimes increases the size of the thyroid gland which may aggravate the pressure symptoms.



When the gland is hard and carcinoma is suspected, thiouracil should not be used even though symptoms of hyperthyroidism may be present.

Repeated courses of thiouracil are generally contraindicated. The thiouracil prepared patient is not technically an easy surgical problem. Two or more weeks of subsequent lugalization is essential to control hemorrhage.

### Summary

1. Thiouracil is a potent antithyroid agent.
2. It is effective in both toxic-adenoma and in toxic-diffuse goiter in the majority of cases.
3. It is impossible at this time to state how long a patient must be treated to get a permanent cure, 90 per cent having recurred when treatment was omitted, even after six to twenty-seven months' treatment.
4. It is a dangerous drug if used carelessly; it has caused fatal agranulocytosis, myxedema, drug fever, urticaria and other toxic reactions in 13 per cent of the patients treated.
5. It causes an enlargement of the gland, as well as increased vascularity and friability of the structure.
6. It is the best known agent for inducing remission in thyrotoxicosis, and is probably the most useful in conjunction with iodine in preparing patients for thyroidectomy.
7. The Council on Pharmacy and Chemistry of the American Medical Association reported in the A.M.A. Journal, Feb. 9, 1946, that six drug manufacturers had made a survey on the use of thiouracil in 5,745 cases and "on the basis of the available information it can be recommended only that thiouracil be used for pre-operative treatment, or for those patients for whom operation is contraindicated. The wisdom of de-

pending on thiouracil as a substitute for operative procedure can be determined only by following the results of investigation carried on for longer periods."

NOTE: Since this paper was read last year we have received an experimental supply of 6-propyl thiouracil which we have been using to the exclusion of plain thiouracil. We have found 6-propyl thiouracil equally as efficacious, although somewhat slower acting than plain thiouracil; in fact, its use takes almost twice the latent period required with plain thiouracil.

We have experienced no toxic manifestations from 6-propyl thiouracil. Dr. S. M. Hardy, of Lederle Laboratories, Inc., has collected data on 284 patients receiving 6-propyl thiouracil (this includes our patients) and reports only 5.9 per cent showing any side effects, and only 1.4 per cent on whom the drug was stopped because of side effects. Dr. Bartels has had one non-fatal case of agranulocytosis due to 6-propyl thiouracil.

The dosage of 6-propyl thiouracil which we found most effective is 150 mg. daily. We use the same precautions with 6-propyl thiouracil as outlined for plain thiouracil. We have had one patient that did not respond to 6-propyl thiouracil even in doses of 250 mg. daily, yet all-in-all we believe 6-propyl thiouracil is a better drug in preparing patients for goiter surgery.

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### BIBLIOGRAPHY

1. Astwood, E. B.: Treatment of Hyperthyroidism with Thiourea and Thiouracil, J.A.M.A. 122:78 (May 8) 1943.
2. King, B. T., and Rosellini, L. J.: Treatment of Acute Thyroiditis with Thiouracil, J.A.M.A. 129:267 (Sept. 22) 1945.
3. McKenzie, C. G., and Julia B. McKenzie: Sulfonamides, Thioureas and Thyroid, Endocrinology, 32:185 (Feb.) 1943.
4. Reveno, W. S.: Effect of Thiouracil on Human Tissues, J. Clin. Endocrinology 5:403 (Nov.) 1945.
5. Reveno, W. S.: Thiouracil Effect in Diabetes Mellitus Complicated by Hyperthyroidism, Am. J. M. Sc., in press.
6. Palmer, M. Virginia: Hyperthyroidism and Thiouracil, Ann. Int. Med. 22:335 (March) 1945.
7. Williams, R. H., and Clute, H. M.: Thiouracil in the Treatment of Thyrotoxicosis.
8. Astwood, E. B. L.: Thiouracil Treatment in Hyperthyroidism, J. Clin. Endocrinology, 4:229 (June) 1944.
9. Barr, D. P., and Scharr, E.: Observations on the Treatment of Graves' Disease with Thiouracil, Ann. Int. Med. 23:754 (Nov.) 45.
10. Shirer, J. W., and Cohen, M.: The Effects of Thiouracil on the Thyroid Gland, Ann. Int. Med. 23:790 (Nov.) 1945.

## SURGERY ON ELDERLY PATIENTS

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The surgeon of today has far more to offer an elderly patient than at any time in the past. The factors which are responsible for this are: improvements in anesthesia, better diagnostic facilities, a better understanding and appreciation of physiology which has made possible more intelligent pre and postoperative treatment; and finally, the universal acceptance and use of

the sulfonamides and penicillin. The indications for operation are many and will range from one in which it is imperative as a life-saving measure to one that is done purely as a prophylactic measure.

In an acute surgical condition in which the patient's life is at stake, there is no alternative for surgical intervention. There are other conditions in which the immediate danger is not great, yet if allowed to remain indefinitely might become an extremely grave one. A patient whose gallbladder contains stones may never have suffered an acute attack of gallbladder colic, yet there is always the danger of acute cholecystitis with possible rupture of the gallbladder and peritonitis. The incidence of carcinoma of the gallbladder is higher in bladders which have harbored stones than in those without them. There is a high incidence of malignant changes in non-toxic goiters. Benign rectal and cervical polyps may become malignant.

However, when one recommends an operation he should seriously consider the dangers that it entails and whether these dangers outweigh that of the disease itself.

We are all in accord that a person who has reached this age group is not as desirable a risk as one in the lower age bracket. Middle age is accompanied by degenerative changes in the body. This is most noticeable in the cardiovascular and urinary systems, and to a lesser degree in other systems. In all, resistance, or the power to recover from illness and injury, is less at this age. Granting this to be true, it is remarkable and most gratifying how well some of these patients tolerate rather lengthy operative procedures.

They should receive meticulous care in preparing them for operation. Especially is this true in elective cases where ample time can be had. If there are any concomitant medical diseases, the services of an

internist are most essential. The general physical condition should be studied carefully as regards to anemia, dehydration and electrolytic imbalances, which should be corrected with blood and intravenous fluids containing the deficient electrolytes.

It is wise to give one of the sulfonamides or penicillin to combat any infection present or any anticipated one. Especially is this true in operations around the diaphragm, which are apt to be followed by pulmonary complications. Operations on the large bowel should be preceded several days by large doses of sulfasuxidine. In obstructive lesions of the gastrointestinal tract, Wangansteen suction should be employed to completely empty it above the obstruction. In jaundiced patients and in those whose prothrombin and clotting time are delayed, vitamin K should be given. Vitamin C deficiency may retard wound healing.

If a trained physician anesthetist is available the choice of an anesthetic should be left to his discretion. If not, the surgeon will need to make this decision himself. If practical a local anesthetic should be used singly or in combination with some type of inhalation anesthetic. Ether alone or with gas is well tolerated unless a respiratory infection or diabetes is present, in which case one of the aforementioned gases should be used. My experience with pentothal sodium intravenously, and spinal anesthesia, is very limited, but if they are used they should be given by one well trained in anesthesiology.

The extent of the operation should be adequate but nothing more. Some are best done in two stages. It appears that those doing radical large bowel resections prefer two-stage operations. Toxic goiters are often more safely done in two stages. The question arises at times whether an ulcer around the pylorus, with obstruction, should have

a resection or a gastroenterostomy. In the absence of hemorrhage and a low acidity, a gastroenterostomy usually works very nicely. In the presence of hemorrhage, resection with removal of the lesion, if practical, is highly indicated. Hemorrhage from a gastric or duodenal ulcer is difficult to control and if ligation or its equivalent is not done, is quite often fatal. In an acutely inflamed gallbladder it is often easier and safer to do a cholecystostomy with removal of any stones. In selected cases cholecystectomy may be safely done. In gangrene of the lower extremity, amputation of the leg through the knee joint makes a satisfactory type of operation. It is easily done and is far less shocking than amputations at a higher level.

Good postoperative treatment is most essential and may mean the difference between success and failure. It may become imperative to give blood, plasma, or fluids while the patient is on the operating table; otherwise the giving of these can be postponed until the patient is back in bed. If blood or plasma is not indicated, intravenous fluids should be given for the first twenty-four hours in the amount of at least 3,000 cc. After then fluids may be given by mouth, and if this amount is not adequate should be supplemented with parenteral fluids. If there is an additional loss of fluids by vomiting or through a fistula, the amount should be increased proportionately. A warning here may be in order regarding the use of salt solution. A marked increase in sodium chloride linked with a hypoproteinemia may produce disastrous effects. Edema, particularly of the lungs, will place an added strain on already overtaxed cardiovascular and renal systems. Since the pre-operative diet in these patients most likely has been low in proteins, it is advantageous to give parenteral aminoacids. Abdominal distention with or with-

out nausea and vomiting may require Wangenstein suction. Unless there are strong objections, a regular diet should be given early and this will aid in the rapid recovery of the patient. Oxygen is essential if there are signs of cardiac failure or pulmonary distress and if there is present any degree of shock. The brain cells suffer tremendously from cerebral anoxia.

Deep breathing and early active movements should be insisted upon. This can be done easier by the liberal use of morphine or one of its equivalents. These cases are apt to develop chest complications or phlebitis of the extremities. These can be obviated to a marked degree by having the patient out of bed early, on the second or third day, or by all means on the fourth or fifth day, unless the patient's condition does not permit. Thrombophlebitis or phlebothrombosis rarely develops before the fourth or fifth days. In the event of the development of either of these, paravertebral block used singly or in combination with dicumoral should be carried out. Heparin is beneficial but requires constant laboratory check on the clotting time. A more radical treatment is ligation of the involved vein proximal to the clot. The earlier the patient can be got out of bed and made to care for himself, the shorter will be the convalescence.

#### REPORTS OF CASES

*Case 1*—A colored female, aged 76, was admitted to the hospital with a diagnosis of acute appendicitis. Appendectomy was followed by an uneventful recovery.

*Case 2*—A white male, aged 78, was admitted to the hospital with a strangulated inguinal hernia. He also had a hypertension, and myocarditis. Herniorrhaphy was performed. The sac contained sigmoid tissue and was of the sliding type. Recovery was stormy. He developed myocardial failure. Hypertrophy of the prostate gave him a urinary retention for several weeks. He remained in the hospital six weeks.

*Case 3*—A white female, aged 74, was admitted to the hospital with a postoperative ventral hernia following a pelvic operation twenty-five years before. She had abdominal pain, nausea and vomiting. Repair of the hernia was done. Several loops of small bowel were in



the subcutaneous tissue. Nausea and vomiting followed the operation. Some distention was present. Bronchopneumonia developed on the fourth day, and death occurred on the sixth postoperative day.

*Case 4*—A white female, aged 76, had known for several years that she had a large abdominal tumor. She passed the menopause at the age of 50. About six months before admission to the hospital she had moderate uterine bleeding. The diagnosis was cervical polyp and uterine fibroid. She was given radium. Bleeding stopped and she was apparently doing satisfactorily. Just before admission she had severe bleeding. The diagnosis at this time was uterine fibroid with probable malignant changes. Supravaginal hysterectomy was performed. There was a large carcinoma in the fundic section of the uterus. Recovery was uneventful and when seen last, eighteen months later, she was considered cured of her tumors.

*Case 5*—A white female, aged 67, had had a pelvic operation twenty-five years ago and had been an invalid from arthritis for twenty years. Four days before admission to the hospital she had abdominal pain with nausea and vomiting. Exploratory laparotomy showed a segment of the ileum to be bound with an adhesion in the pelvis. Obstruction was released and satisfactory recovery followed.

*Case 6*—A white female, aged 63, had had a gastric ulcer for three years, which was confirmed by x-ray examination. For three weeks she had had pain in the epigastrium, nausea, and had vomited practically all food. This was accompanied by some loss of weight. There was a sudden attack of severe abdominal pain and she was admitted to the hospital with a diagnosis of perforated gastric ulcer. Laparotomy was performed. A small perforated ulcer at the pylorus, with complete obstruction, was found. Closure of ulcer and posterior gastroenterostomy were done. Convalescence was normal. No ulcer symptoms followed after eighteen months.

*Case 7*—A white female, aged 62, was admitted to the hospital with a probable diagnosis of acute cholecystitis with rupture of the gallbladder. Gallbladder region was walled off by omentum, transverse colon and duodenum. Bile-tinged turbid fluid was present. Gallbladder was acutely inflamed and distended with bile and pus, and several stones were present. Cholecystostomy, with removal of stones, was done. Recovery was satisfactory. However, wound drained for about ten weeks. After six months she had an attack of pain in the gallbladder region, followed by chills, fever and jaundice. A few days later incision under local anesthesia was made at the old drainage site. About one liter of bile escaped from the wound and from then on recovery was uneventful. At the end of three years she is doing nicely.

*Case 8*—A white female, aged 68, had had painless jaundice with intense itching for three months. The diagnosis was obstruction of the common bile duct, probably due to a malignancy of the head of pancreas. Laparotomy showed a markedly distended gallbladder which was not inflamed. A small mass was palpated in the head of the pancreas. The gallbladder was aspirated and then anastomosed to the descending part of the duodenum. A smooth convalescence followed with complete disappearance of the jaundice. Patient's health, except for symptoms of a failing myocardium, was fairly good for about ten months. Two months ago she began complaining of upper abdominal pain, with some loss of weight and weakness. Her life expectancy is probably two to three months.

*Case 9*—A white female, aged 74, was admitted to the hospital with a probable diagnosis of gallbladder disease. X-ray examination showed non-visualization of the gallbladder. Laparotomy revealed a large tumor in the body of the pancreas with several metastatic growths

in the liver. There were adhesions between the gallbladder, duodenum and transverse colon, and the gallbladder was collapsed. Abdomen was closed. Patient was given sedatives, and whatever food she would take by mouth. She had good nursing care but nothing was done to prolong her life. She lost ground rapidly and died at the end of three weeks.

*Case 10*—A white male, aged 70, was admitted to the hospital with endarteritis and gangrene of the left foot. Amputation was done through the knee, using the Gritti-Stokes operation. Recovery was uneventful. One year later he returned with identical condition of the right foot. The same type of operation was performed on this leg. Recovery was delayed by infection of the wound with some sloughing of the skin. He remained in the hospital about twelve weeks.

### Conclusion

As medical practice in general continues to progress, the scope of surgery will expand.

### REFERENCES

1. Jensen, D. Rees: The Problem of Thrombo-phlebitis, *Ann. Surg.* (March) 1945.
2. Rhoads and Ravdin: Influence of Sulfonamides on Postoperative Complications, *Ann. Surg.* (Oct.) 1945.
3. Graham, Surgical Diagnosis.
4. Crile and Shively: Hospital Care of the Surgical Patient, Nash, Surgical Physiology.

## SUBPHRENIC ABSCESS

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Subphrenic abscesses occur in the upper portion of the abdomen between the diaphragm and the transverse colon. This large space is subdivided into a number of smaller spaces by the liver and the reflections of the peritoneum attached to it. The liver subdivides this space into a suprahepatic or superior space and an infrahepatic or inferior space. Above the liver and between it and the diaphragm there is a bare area, enclosed within the layers of the coronary ligament, which divides the suprahepatic space into right and left portions. Peritoneal reflections proceed to right and left from the bare area forming folds, the lateral ligaments, which further divide the suprahepatic area into a right posterior superior space and a right anterior superior

space and a left posterior superior space and a left anterior superior space. However, for practical purposes there is only one superior space on the left side, pus easily passing around the lateral end of the left lateral ligament. Below the liver the falciform ligament divides the infrahepatic space into right and left inferior spaces. The left inferior space is further divided by the gastrohepatic omentum, the stomach, and the anterior layer of the gastrocolic omentum into a left anterior inferior and a left posterior inferior space, the latter space being known as the lesser peritoneal cavity.

Subphrenic abscesses occur at any age, as all ages are susceptible to the intra-abdominal infections to which most subphrenic abscesses are secondary. The greatest incidence is in the fourth and fifth decades, the period of life which shows the highest incidence of infectious diseases of the abdomen. Males are affected in the proportion of approximately three or four to one female, the sex incidence as well as the age incidence being directly proportional to the incidence of abdominal sepsis. The abscess involves the right side in approximately 86 per cent of the cases; the right posterior superior space in 40 per cent, the right anterior superior space in 28 per cent, and the right inferior space in 18 per cent.

The left anterior inferior space is the most frequently involved of the spaces of the left side, occurring usually as a complication of a gastric ulcer on the right anterior wall or of pelvic infection. The predominance of the involvement of the right spaces is a logical sequel to the predominance of the infection upon the right side of the abdomen. Appendicitis, the most common abdominal infection and the most frequent antecedent of subphrenic abscesses, results in the formation of abscesses in the right posterior superior space, while abscesses of the right anterior superior space

most commonly follow gallbladder infections and perforations of anterior wall peptic ulcers. Approximately one-third of subphrenic abscesses follow appendicitis; one-fourth lesions of the stomach or duodenum; one-fifth lesions of the liver and biliary tract; and one-sixth follow miscellaneous affections such as perinephritic infections, pelvic abscesses, diverticulitis of the colon, empyema thoracis, pneumonias, osteomyelitis of vertebrae or ribs, etc.

Although appendicitis is responsible for a greater proportion of subphrenic abscesses than any other single disease, perforated ulcers suffer such a complication in a higher percentage of cases than any other single disease. Infectious material from involved appendices ascends along the paracolic groove, up between the liver and the parietal peritoneum to the right posterior space. Infectious material from a perforated peptic ulcer ascends up over the lower border of the liver to the right anterior superior space, or may result in involvement of the contiguous right inferior space. Perforating ulcers of the posterior wall of the stomach involve directly the left posterior inferior space. The most frequently offending organisms are the colon bacillus, a streptococcus, or a staphylococcus.

The clinical picture of sepsis of undetermined origin should lead the doctor to consider the possibility of a subphrenic abscess being present. All such cases occurring as a complication of intra-abdominal infection should cause him to suspect the presence of one. The most important factor in the diagnosis of subphrenic abscess is its consideration as a probable cause of the patient's illness. The delay in making the correct diagnosis, which is so frequently seen, is dependent upon the fact that it is not considered. In different reports reviewed the average time of the duration of the abscess before diagnosis varied from twenty-seven

days—an unusually low average—to fifteen weeks in a series of cases reported by Lehman and Archer<sup>1</sup>. One case has been reported in which the diagnosis was made seven years after occurrence of the initiating infection. Infrequently there may be a chill, acute pain in the upper abdomen, a high temperature, respiratory embarrassment of a minor degree, hiccoughing, and nausea occurring in a sudden onset. Characteristically the onset is insidious in a patient who is suffering or has recently suffered from an intra-abdominal infection. Probably, but not necessarily, he has been operated on. Signs and symptoms of infection persist after the abdominal condition has improved or the patient seems worse than may be accounted for by the disease appreciable within the abdomen. The septic temperature continues, the patient complains of pain in his upper abdomen or in the thorax. Hiccoughing or a dry cough frequently develops. There is a complaint of fullness in the stomach, and the patient loses his appetite. Nausea may be present, and often there is vomiting with little associated nausea. Respiration is usually limited, with slight pain. The pain is persistent, usually not sharp nor acute, and is frequently referred to the shoulder of the affected side. Pain is more frequently referred to the shoulder in left abscesses than in right abscesses, generally attributed to a more yielding base on the left with less elevation and fixation of the diaphragm. The patient prefers to lie on the affected side. There is tenderness along the costal border of the involved side constantly in abscesses of the anterior spaces. This tenderness is easily elicited, being more certainly appreciated than tenderness over the adjacent intercostal area. A mass projecting from beneath the costal border may be palpated in many cases. In abscesses in the posterior spaces, tenderness may be elicited

over the twelfth rib. Respiratory movement of the upper abdominal muscles is usually restricted and the margin of the liver, displaced downward by a suprahepatic abscess, may be palpated. The leukocytosis may vary widely, being twelve to twenty thousand, with 80 to 90 per cent polymorphonuclear leukocytes in the typical case.

Apart from suspecting subphrenic abscess, the most important diagnostic aid is the information obtained by competent roentgenographic study. Roentgenograms should be taken in all directions—erect, prone, and in the Trendelenburg position. The patient should also be studied under the fluoroscope. The most constant finding on x-ray examination is elevation of the dome of the diaphragm on the affected side. Fluid may be shown below the diaphragm. Diaphragmatic pleurisy with effusion or without fluid may be shown. Oschner considers the presence of fluid a late sign. Fixation of the diaphragm is not found so frequently as elevation, but if shown by fluoroscopic examination is considered by most authorities as being a pathognomonic sign. Fixation of the diaphragm is indicative of an inflammatory lesion contiguous to the diaphragm, while elevation may occur both with inflammatory and with neoplastic lesions as well as with intrahepatic lesions. Thirty-five to 45 per cent of subphrenic abscesses show a pocket of air below the diaphragm, overlying the fluid pus. Evidence of a shifting fluid level may be obtained by taking pictures in the erect position and with the patient lying on his unaffected side. Air bubbles are found much more frequently with abscesses complicating perforated ulcer than with those complicating appendicitis, cholecystitis, or other conditions. This is attributable to the fact that less than 5 per cent of the accumulations of so-called gas found accompanying subphrenic abscesses are due to



bacterial activity; actually the bubble is an air bubble that has escaped from a lesion in a hollow viscus. The air bubble is readily detected on the right side by x-ray, but the presence of the cardia of the stomach in close proximity to the dome of the diaphragm on the left makes differentiation between an air bubble in the stomach and one under the diaphragm difficult with the patient in the erect position. Carter<sup>2</sup> suggested that the patient be examined in the Trendelenburg position after a barium meal if air appears to be present under the left diaphragm or a left subphrenic abscess is suspected. By this maneuver the roentgenologist is able to determine separation of the cardia of the stomach from the dome of the diaphragm by an intervening abscess, or other mass, and the relation of an air bubble to the stomach. Separation of the cardia of the stomach from the dome of the diaphragm is an important sign of left superior subphrenic abscess.

The increased density of the abscess may lead to its discovery and enable the roentgenologist, by lateral and anteroposterior position and plates, to locate it definitely and help the surgeon plan his approach. Obviously, in abscesses of long standing with free fluid within the overlying pleural cavity, the signs and symptoms of such disease will be detected upon physical and roentgenologic examinations. Effusion within the pleural cavity may cause difficulty in determining the presence of fluid below the diaphragm. Lilienthal has suggested that three to four hundred cubic centimeters of air be introduced into the peritoneum by allowing the air to flow in from a pneumothorax apparatus through a blunt Kuss needle thrust into the peritoneum below the left costal margin. If normal conditions exist below the diaphragm, the air will rise to form a bubble below the dome of the diaphragm where it can be detected by x-ray

examination. The existence of an abscess below the diaphragm with the surrounding adhesions will prevent the air to ascend.

In general, the x-ray findings are the same with abscesses on the left side as with those on the right, being found, of course, upon the side involved. However, certain anatomic differences exist and these serve to make the signs in right-side abscesses more marked in degree and thereby more easily appreciated. The superior space abscesses on the right are supported by the liver, a firm, rather fixed organ, which does not readily yield to the pus accumulating above it. Its relative immobility causes the more, mobile diaphragm to be forced upward. Pus in the left superior space has as its base the hollow, freely mobile stomach and the splenic flexure of the colon. The diaphragm offers greater resistance to the accumulating pus than does these organs and the growth of the abscess, with the displacement of its confining walls, takes place downward, resulting in a relatively slight degree of elevation of the left dome of the diaphragm as compared to the right.

Aspiration as a diagnostic procedure, in attempting to locate the pus, is to be condemned, as infection occurs along the course of the needle in a high proportion of the cases and the frequent failure to secure pus may lead to further postponement of surgical drainage. Particularly is this true, as it is difficult to conceive of anyone employing aspiration except in the presence of signs and symptoms which strongly indicate the presence of pus.

The complications of subphrenic abscess may be divided into those caused by its rupture or by perforation, and those caused by an extension of the infection. The systemic conditions of sepsis, anemia, cachexia, and prostration are more properly classified as signs and symptoms than as complications. Rupture may take place

through the surgical wound effecting a drainage with salutary effect, into a hollow viscus such as the stomach or colon, into the peritoneal cavity with resulting peritonitis, into the extraperitoneal space with spreading infection, through the diaphragm into the pleural cavity, or through the skin externally. Rupture into the pleural cavity may cause empyema, pneumonitis, abscess of the lung, or a bronchopleural fistula. Pleural exudate with empyema, pericarditis, or mediastinitis may result from extension of the septic process from the subdiaphragmatic abscess, either by lymphatic channels or by a spreading cellulitis. These complications are usually late in their development and serve as incriminating evidence of a delayed diagnosis.

In reviewing the literature on subphrenic abscess it becomes apparent that a patient may carry a large amount of pus in one of the subphrenic spaces for a long time without suffering greatly. This is substantiated by the remarkably large number of cases in which the diagnosis is first made six months to a year after their incipency. The development of complications and the high mortality are attributable to this delay. The prognosis is influenced by the delay in diagnosis and by the type of treatment instituted more than by any other factors. Delay in the diagnosis permits the development of complications which are usually more serious than the disease *per se*. With the development of complications the patient's condition becomes critical with dramatic suddenness. Medical treatment results in a mortality of approximately 99 per cent. The mortality with surgical treatment depends upon the procedure by which drainage is instituted. Those drained transperitoneally carry a mortality of 50 per cent, those drained through a transpleural approach suffer a mortality of 42.8 per cent and those drained through an extraserosus

approach suffer a mortality of 20 per cent<sup>3</sup>. With early diagnosis and the use of an extraserosus approach, the mortality of subphrenic abscess should not be higher than 6 to 8 per cent, a rate attained recently in some clinics.

Little attention has been given to the prophylactic treatment. Much may be done to lower the incidence of this serious complication of intra-abdominal infections. Adequate treatment of infectious diseases of the abdomen in their incipency will decrease the number of subphrenic infections. When there is delay in the diagnosis and the institution of treatment, the movements of the diaphragm, developing a negative sucking pressure in the upper abdomen with aspiratory action upon the septic material, tend to draw this material up under the diaphragm. Elevation of the head of the bed and supplying adequate drainage from the paracecal fossa in patients with septic appendicitis and from the anterior-superior subdiaphragmatic space, and the right inferior space, in patients with perforated ulcers or with infectious cholecystitis, should lower the incidence of subphrenic infection. Patients operated upon for infectious diseases of the abdomen should be given penicillin in sufficient dosage to protect them from the spread of the infection. The penicillin should be continued for three or four days, longer if the temperature is above 100° F. As a large percentage of subdiaphragmatic infections subside without abscess formation, the percentage forming abscess should be materially decreased by the use of this bactericidal agent.

The treatment of subphrenic abscess is surgical. Drainage should be instituted promptly. Abscesses located in the anterior spaces should be drained by approach through an incision parallel to and just below the costal border. The incision is carried down through the muscles and posterior

fascia to the peritoneum, which must not be opened. The peritoneum is stripped carefully along the line of cleavage from the overlying diaphragm until the induration and fluctuation of the abscess are detected. The abscess is then entered through an opening in the peritoneum and a drainage tube is inserted. The peritoneum of the under surface of the diaphragm is fairly tough and can be easily stripped from the diaphragm. Abscesses situated in the posterior spaces should be approached from below the ribs in the back. The twelfth rib is resected, after stripping it of its periosteum, and a horizontal incision is made across the bed of the rib at the level of the spine of the first lumbar vertebra. It is important that this incision should not be made at a higher level, as a higher incision will in a number of instances enter the lowest levels of the pleural cavity. The lowermost fibres of the diaphragm are cut across and the retroperitoneal area is entered. The peritoneum is then readily stripped from the undersurface of the diaphragm up to the abscess where the inflammatory reaction will have caused fixation of the peritoneum to the diaphragm. The abscess is then entered through the peritoneum, drainage effected, and a tube inserted. In involvement of the lateral aspect of either the right anterior or the right inferior space, blunt dissection carried out more anteriorly will enter the former space, and below the liver edge will enter and drain the right inferior space.

All subdiaphragmatic infections do not result in the formation of abscesses, it being estimated by Oschner<sup>4</sup> that approximately 70 per cent of such infections subside without abscess formation. This fact has led some surgeons to advocate a delay before operating with the hope that the infection may be resolved and a spontaneous cure result. Once there is an accumulation of

pus, this hope should not be entertained but drainage should be effected immediately by the extraserous route applicable to the particular abscess.

#### REFERENCES

1. Lehman, E. P., and Archer, V. W.: Suprahepatic Abscess, *South. Surgeon*. 5: 407-421.
2. Carter, B. N.: Left Subphrenic Abscess, *Ann. Surg.* 110: 562, 1939.
3. Oschner, Alton; DeBakey, M., and Michael: Subphrenic Abscess: *Internat. Abst. Surg.* 66: 426-438, 1938.
4. Oschner, Alton, and Graves: *Ann. Surg.* 98: 961 (Dec.) 1933.

### ONE YEAR'S OPERATION OF THE EXPANDED TYPHUS CONTROL PROGRAM IN GEORGIA

During the latter part of 1945 murine typhus control activities in Georgia were expanded to include DDT (dichloro-diphenyl-trichlorethane) powder mixed with pyrophyllite. Rat eradication by means of rodenticides was expanded as an expedient measure of controlling the disease over large areas of the State. These measures are temporary until such time as permanent control measures of ratproofing buildings and sanitary refuse collections and disposal can be applied to those areas.

The combination of DDT dusting and rat eradication is directed at the destruction of the rodent vector (rat fleas and possibly other rat ectoparasites) by DDT dusting and the destruction of the rodent reservoir.

By the end of 1945, 21 counties; namely: Appling, Bibb, Bulloch, Burke, Chatham, Coffee, Colquitt, Crisp, DeKalb, Dougherty, Fulton, Glynn, Jenkins, Laurens, Richmond, Screven, Telfair, Terrell, Tift, Toombs, and Worth, had accepted the DDT dusting and rat eradication program. The program in these counties was designed to apply DDT dust and rat eradication once each three months to all rat infested business establishments and selected urban and rural residential areas where human cases of the disease had been reported or murine typhus infected rats were trapped.

Through the excellent cooperation of the local county and city authorities, organized typhus control operations in the 21 counties continued throughout the year 1946. In addition, 52 counties conducted typhus control programs during a part of the year.

Reviewing the murine typhus morbidity reports for the year 1946, the incidence of the disease for the State dropped to 585 reported cases as compared with 1,111 reported cases for 1945, a decrease of 47.4 per cent for the year 1946. The influence that the DDT dusting and rat eradication program in the several counties might have had in this decrease of the number of murine typhus cases reported for 1946, may be



indicated by an analysis of the following comparisons:

1. Comparison of murine typhus morbidity of a group of 21 counties having full time DDT dusting and rat eradication programs during 1946 and a group of 75 untreated counties in which no previous control activities were conducted.

The 21 counties reported 55.6 per cent of the total number of cases reported in 1945 for the State. In 1946 the same group of counties reported 39.2 per cent of the total number of cases for the State. The 75 untreated counties reported 9.9 per cent of the total number of reported cases for the State in 1945, and 15.2 per cent of the total number of cases reported in 1946.

2. Comparison of murine typhus morbidity of a group of five counties having a population of 35,000 or more per county, which are included in the group of 21 counties having full-time programs during 1946, and the remaining 16 counties of the 21 county group having a population of less than 35,000 per county. In addition, a comparison of each of these two groups of counties with the 75 untreated counties.

The five county group reported 38.7 per cent of the total number of cases reported for the State in 1945 and 13.2 per cent of the total number of cases reported for the State in 1946. The 16 county group reported 16.9 per cent of the total number of reported cases for the State in 1945 and 26.0 per cent in 1946.

3. Comparison of murine typhus morbidity of a group of 52 counties having partial DDT dusting and rat eradication programs during 1946, and the group of 75 untreated counties.

This group of 52 counties reported 22.8 per cent of the total number of reported cases for the State in 1945 and 37.6 per cent in 1946.

In addition to the above comparative groups, 11 counties of the total 159 counties of the State are not included for analysis for the reason that typhus control work was conducted in these counties during the latter part of 1945 and the counties did not participate in the typhus control program during 1946 or they are counties participating in special investigative projects.

In presenting the comparative analysis to follow, the indicative results should not be judged as conclusive for the reason that it is believed that one year of operation is not sufficient to determine the effectiveness of any specific or combination of murine typhus control measures that may be applied over a large area as was the case in Georgia during 1946.

For the purpose of placing county morbidity reports on a comparable basis, comparative data of murine typhus morbidity are based on the number of cases reported per 100,000 population. Furthermore, all population data are based on the 1940 census.

In the first analysis the 21 treated counties

have a total population of 1,107,596 as compared with a total population of 1,035,195 for the 75 untreated counties. For 1945 the 21 counties reported a case rate of 56.0 as compared with a reported case rate of 20.7 for 1946. This is a case rate reduction of 35.3 or 63 per cent in 1946 as compared with 1945. Comparing this group of counties with the group of 75 untreated counties, the case rate for the 75 untreated counties in 1945 is 10.6, whereas the case rate for 1946 is 8.6. This shows a case rate reduction in the untreated counties of 2.0 or 18.9 per cent for 1946 as compared with 1945. Therefore, from this data we may observe that for 1946 as compared with 1945 there was a marked increase in the reduction of murine typhus fever morbidity amounting to about 44 per cent in the group of 21 treated counties as compared with the group of 75 untreated counties. While the decrease in murine typhus morbidity for the 21 counties was accumulative over the entire twelve months of 1946, a marked decrease occurred during the period July through December. During this period of time about 75 per cent of the total number of cases for the year were reported. About the same observation holds true for the untreated counties.

In the second analysis, the group of 21 treated counties is broken down for comparison into two groups of five and 16 counties respectively. It is interesting to note that the five counties, with a total population of 763,444, reported a case rate of 56.5 for 1945 as compared with a case rate of 10 for 1946. Therefore, a reduction in case rate of 46.4 or 82 per cent is shown in 1946 as compared with 1945.

The group of 16 counties having a total combined population of 344,152, reported a case rate of 54.6 in 1945 as compared with a case rate of 44.2 for 1946. This is a reduction in case rate of 10.4 or 19.1 per cent in 1946 as compared with 1945. From this data we may observe that the greatest decrease in typhus morbidity for the 21 treated counties for the year 1946 as compared with 1945, occurred in the five counties having an individual county population of 35,000 or more. This comparative data of the two groups of counties indicate that control measures were more effective in the five county group.

In comparing the five larger counties of the 21 county group with the 75 untreated counties, we find that for the year 1946 the reduction of typhus morbidity in the five county group is 63.1 per cent greater than the decrease that took place in the untreated counties in 1946 as compared with 1945. This appears to be a significant drop in typhus morbidity in the five larger counties. On the other hand, comparing the 16 smaller or rural counties of the 21 county group we find that the percentage decrease of these counties amounted to 19.1 per cent in 1946 as

**THE JOURNAL**OF THE  
MEDICAL ASSOCIATION OF GEORGIA

478 Peachtree Street, N. E., Atlanta, Ga.

MARCH, 1947

## THE AUGUSTA SESSION

In this number of *THE JOURNAL* is published the program for the 1947 annual session of the Association—the Augusta session. Read it carefully and make your plans to attend all scientific meetings, and to participate in the discussion of those subjects of interest to you. Remember, discussion is not limited to those persons named in the program.

Delegates to this session of the Association are reminded that the first meeting of the House of Delegates will be held at the Bon Air Hotel, Augusta, promptly at 2 o'clock in the afternoon of April 22. Needless to say, proposals made by a delegate to the House of Delegates should have the endorsement of the delegate's county medical society.

The first meeting of the Council of the Association will be held immediately following adjournment of the House of Delegates, in the afternoon of April 22. At this meeting of the Council membership of the Association is discussed. County secretaries should remember that all dues to the Association should be in hand and reported to the Secretary of the Association not later than April 1. Any member not so reported by this date loses his or her right to certain benefits of the Association, including medical defense.

All sessions of the Association will be held in the Bon Air Hotel, as will the meetings of the House of Delegates and the Council.

Hotel reservations should be made at once. If for any reason you are unable to secure accommodations, call, telegraph or write Dr. J. Victor Roule, General Chairman of Arrangements, Southern Finance Building, Augusta.

THE TECHNIC OF ADDRESSING  
"LAY" AUDIENCES

The demand for physician speakers on health matters to lay audiences in meetings and over the radio has increased remarkably in the past years. This has been recognized in a number of areas in Pennsylvania by the development of so-called speakers' bureaus associated with county medical societies. In some instances experienced teachers of public speaking have been coaching physicians on methods of presentation of their

subjects. More of this type of development needs to be done.

A number of general and special points about speaking to audiences come to mind. The general ones are that enunciation should be clear, words should not be mouthed, sentences should be short, sharp, and pointed. The lower jaw should be moved, the facial muscles should register the spirit of the remarks. In English, accentuation is done by emphasizing consonants; vowels take care of themselves. The voice should be focused not in the throat or behind the teeth but just in front of the lips and thrown out, so to speak, over the heads of the audience in an imaginary arc, the other end of which reaches just behind the farthest person in the room. The bones of the head and the air in the sinuses can be made to vibrate, add overtones, and thus increase carrying power. It is well to single out from the audience the one who looks the most inattentive or bored and speak directly to this individual; the rest are certain to be interested.

Twenty minutes is about as long as an audience will listen to serious discussion. "If you cannot save them in the first twenty minutes, try again some other time," says the experienced clergyman. If the presentation lasts longer than twenty minutes, tell a story but, of course, with a point to it apropos of the subject. Introduce it after a little pause; then ten minutes more of serious discussion and another story or wise-crack. Too much ground should not be covered, for then none is covered well. Pick out one or two, or at the most three, points and drive them home. Make the discussion in narrative style, add personal experiences from time to time about Mrs. A. or Mr. B. Organize the subject matter. Do not repeat, retrace, or reiterate except deliberately for purposes of emphasis. Hemming and hawing are anathema.

The special difficulty in health matters is technical language. People do not come to health meetings to be taught a language but to learn facts and deductions. It is a truism that if one understands a subject well he should be able to tell it to a seven-year-old. The trick is never to use a technical word. Sometimes a whole sentence, or even a paragraph in the vernacular, is needed for one technical word. The object of teaching health matters is to teach; technical words fail to teach if their meaning is not understood. If a technical word is used it should be defined, and if it is used a second time should be re-defined, and even a third or fourth time. Finally it may be remarked that the speaker should stop on time, and not only because it is selfish and discourteous to encroach on the next speaker's time. It is much better to leave the audience wishing that the speaker would continue rather than to say, "Oh, when will he stop talking?"

The matter is serious enough to warrant further organization of speakers' bureaus and the



training of more and more physicians to be interesting and instructive teachers.

STANLEY P. REIMANN, M.D.  
*The Pennsylvania Medical Journal*,  
 February, 1947.

## A DEARTH OF GENERAL PRACTITIONERS

Deeply concerned about the decrease in the number of general practitioners in his state, Dr. C. A. Dawson, president of the State Medical Society of Wisconsin and a member of the State Medical Board of Examiners, recently addressed his fellow physicians on the subject, "Is Over-specialization a Threat?" Dr. Dawson reports that upon questioning applicants for licensure, many of them formerly with the armed services, it was learned that only 10 per cent intended to do general practice, 90 per cent stating that they proposed to specialize. In the course of private conversation, applicants said that the following factors had influenced their decision to enter special fields:

"1. That they had been assigned to specialized service under a specialist in one certain field and had become impressed by the type of work that had been done by that individual. Having had some experience and training along that line they felt that they should not waste the knowledge that they had thus acquired.

"2. That there was much more opportunity for large financial gain in the specialist fields than in the field of general medicine.

"3. That in the specialist fields the work was not so arduous—that night work was seldom necessary (except in the field of obstetrics), and that, with their work being almost entirely hospital and office work, much more time could be devoted to cultural advancement and to social and recreational pursuits.

"4. That there is an increasing tendency on the part of hospitals to limit their staffs to specialist board rated men. These men pointed out that without specialty rating they would have little or no possibility of being able to hospitalize their patients under their own service and administer to them their own treatment. It was the thought of these men that as time passed the opportunity for general practitioners to obtain staff appointments would become more and more difficult. In certain cities and in certain excellent institutions this condition has indeed become fact. No argument can controvert the fact that the general practitioner, for instance, who is forced to turn his obstetric cases over to an obstetrician for delivery and the newborn babe to a pediatrician in order for them to get hospital care, is being handicapped.

"5. One more reason that the young man looks askance at the general practice of medicine is that, in his opinion, the prestige of the specialist is steadily mounting while that of the general practitioner is suffering a corresponding decline.

"All of these reasons seem important to young men, and indeed they are. There is the task of mapping out their future. They hesitate to hitch their wagons to a falling star."

Pointing out the seriousness of the situation which exists in his state because of the decline in the number of general practitioners, Dr. Dawson calls attention to diverging opinions with respect to specialization. On this point, he concludes:

"Medicine today is in a vortex which has been created by its own progress. As the profession becomes more and more exact, specialism becomes more and more necessary and it becomes more and more difficult for the patient to obtain comprehensive medical care. When specialism has developed to the point where the whole man is being treated by different types of specialists who have little or no common ground upon which to stand, specialism will have become a dangerous thing. No one would decry the necessity for specialized knowledge, but some way must be found to integrate specialism into comprehensive medical care.

"... The problem is one that concerns all of medicine. The causes, in relation to the effect, should be studied, and the solution, or solutions, discovered. No one man will find the answer."—*Medical Annals of the District of Columbia*, December, 1946.

## WHO OWNS THE FILMS?

The American College of Radiology has adopted the following statement of policy regarding ownership of radiograms for the guidance of hospitals and physicians.

1. Roentgenograms should be used for the best interest of the patient.

2. The roentgenograms are the legal property of the radiologist or of the hospital in which they were made.

3. The radiologist should make the films available for inspection by the physician who referred the patient for x-ray examination, along with a copy of the report of the radiologist.

4. If the referring physician, or if the patient in behalf of the referring physician, takes the films away from the office or the hospital, it should be clearly understood that the films are "on loan" and should be returned.

5. If the patient dismisses the referring physician and goes to another physician, the films and the report should be made as freely available to the second as they are to the first physician who originally referred the patient.

6. If the referring physician objects to the submission of the films to the second physician or to giving to the latter a copy of the radiologist's report, the radiologist is obligated to do so in spite of this objection.

7. All films should be legibly and permanently marked so that the patient can be identified and the date on which they were taken can



be determined. This is important because, under some conditions, a comparison of films just made with others made previously may be the crucial factor necessary to establish a diagnosis or to estimate the progress or regression of a disease.

8. When a medico-legal situation exists, the radiologist has a right to refuse the involved films if necessary for his own protection, except on a court order.

9. A liberal attitude regarding the release of films is more desirable than strict insistence on one's legal rights, in order not to engender the enmity of a patient or of a physician by strict adherence to the rule.

10. In recognition of the universal importance of radiologic methods of examination, the principles outlined regarding the use of roentgenograms are deemed by the American College of Radiology to be equally applicable to roentgenograms made by physicians other than those who are specialists in radiology.—(From *The Modern Hospital*, October, 1916.)

### THE CARE OF THE OLD

Old age is not a disease but rather that period when the tissues and muscles of the body break down and lose their elasticity, according to the Educational Committee of the Illinois State Medical Society. The resiliency of youth is gone. The body of a child or adolescent is quick to spring back into a normal state after an illness or an injury. Usually a child's life is well accounted for. The family physician and your state department of health are working constantly and cooperatively to develop the child into a good functioning unit. But how about the same child when he grows into the period called "old age?"

In recent years the term geriatrics has come into being. The word is derived from two Greek words meaning "care of old age." Actually it is a medical term to denote the study of diseases and care of the aged. Indiana was the first state to really recognize a definite need in this field. It set up a division to care for the old. South Carolina was the second state to create a similar program.

Why? The aged have their problems. Advancing years bring about many changes in the body. Among the diseases of the aged are those affecting the kidneys, the heart, the eyes and the ears. Then there are cancer, arthritis and the many changes in the glands of the body. Of course, some people through the years show a slight mental deterioration.

To meet these various changes in the body and frequently in the mind, the aged person has to be taught readjustment. The factors of aging and the problems of the aged are a relatively new and untried activity of public health administration. It is estimated that more than 30 million persons in continental United States have attained 60 years of age and over. From 1930

to 1940 there was only a 7 per cent increase in our population—but an increase of 35 per cent in the number of people of 65 and over.

Does this mean that the group reaching the state of so-called old age must retire from active living? A man or woman who has lived actively cannot retire helplessly. The process of aging, the problems of the aged and the more common diseases and disabilities associated with aging are met by the doctor in the new field of geriatrics.

It is important for the old to be happy. No active person can ever be completely satisfied in doing nothing. So geriatrics, the care of the aged, meets a need well. In this field the doctor is again vigilant to the problems of good healthful living. As the child is helped into the period of his "teens," so the person growing old is helped into a state of happiness and new usefulness.

### MANY INTERESTING MEDICAL ANECDOTES UNCOVERED FOR CENTENNIAL BOOK

In writing a history of the American Medical Association for the centennial celebration in Atlantic City, June 9-13, Morris Fishbein, M.D., editor of *The Journal of the American Medical Association*, has uncovered many interesting anecdotes touching on medical problems of the past.

"Back in January 1902," he says, "*The Journal* showed great concern because the physicians who had taken care of President McKinley at the time of his assassination had never been paid for their services and had not rendered any bills. The editor felt that Congress should make some sort of appropriation for them."

*The Journal* of January 4, 1902 carried an editorial entitled "The Nation Should Pay the Late President's Physicians." The editorial said in part:

It is reported that the executors of the estate of the late President McKinley have felt obliged in the course of their duties to ask for the bills of the physicians who attended him. . . . It is not a matter of surprise that the surgeons are reluctant to send in their bills, which would naturally be large on account of the responsibility assumed and the other peculiar circumstances of the case.

The late President was stricken down at a public function while performing his official duties as President of the United States, not as a private individual, and the Nation is properly responsible for the expense which was incidental to his public position. There ought to be no question as to this point and no hesitation on the part of Congress to make an appropriation for the purpose. A corporation—as a railroad company—always considers it its duty to assume the expense of caring for its servants when injured in the performance of their duties. The Nation can certainly do no less in regard to its servants.

The history of the A. M. A. which Dr. Fishbein is writing will be printed in book form and distributed at the Atlantic City meeting.

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The officers of the Medical Association of Georgia urge its members to attend the Ninety-Seventh Annual Session, to be held at the Bon Air Hotel, Augusta, April 22-25, 1947.

The House of Delegates will convene Tuesday, April 22, at 2:00 P. M. at the Bon Air Hotel. The scientific session will open April 23 at 8:30 A. M.





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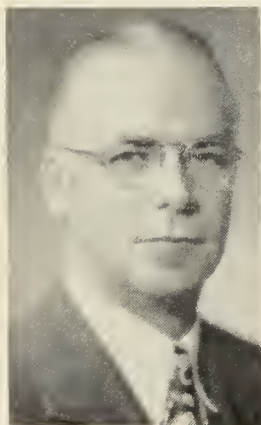
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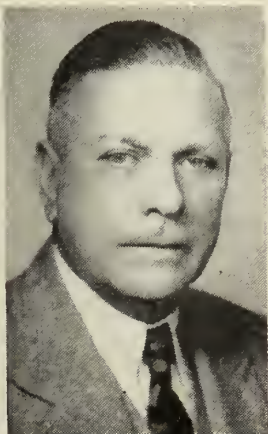
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# MEDICAL ASSOCIATION OF GEORGIA *Ninety-Seventh Annual Session*

Augusta  
April 22, 23, 24, 25, 1947

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### *Vice-Councilors*

1. Chas. T. Brown (1949).....	Guyton
2. C. H. Watt (1949).....	Thomasville
3. Guy J. Dillard (1949).....	Columbus
4. Enoch Callaway (1949).....	LaGrange
5. Spencer A. Kirkland (1949).....	Atlanta
6. H. G. Weaver (1949).....	Macon
7. D. Lloyd Wood (1949).....	Dalton
8. Alton M. Johnson (1949).....	Valdosta
9. D. H. Garrison (1949).....	Clarkesville
10. J. Victor Roule (1949).....	Augusta

### *Executive Committee*

Ralph H. Chaney, President.....	Augusta
W. F. Reavis, Chairman, Council.....	Waycross
Edgar D. Shanks, Secretary-Treasurer.....	Atlanta

### *Honorary Advisory Board*

W. S. Goldsmith.....	President, 1915-1916
E. E. Murphey.....	President, 1917-1918
J. W. Palmer.....	President, 1918-1919
J. W. Daniel.....	President, 1923-1924
F. K. Boland.....	President, 1925-1926
C. K. Sharp.....	President, 1928-1929
Wm. R. Dancy.....	President, 1929-1930
M. M. Head.....	President, 1932-1933
C. H. Richardson.....	President, 1933-1934
Clarence L. Ayers.....	President, 1934-1935
James E. Paullin.....	President, 1935-1936
B. H. Minchew.....	President, 1936-1937
Grady N. Coker.....	President, 1938-1939
J. C. Patterson.....	President, 1940-1941
Allen H. Bunce.....	President, 1941-1942
James A. Redfearn.....	President, 1942-1943
W. A. Selman.....	President, 1943-1944
Cleveland Thompson.....	President, 1944-1946

## RICHMOND COUNTY MEDICAL SOCIETY OFFICERS AND COMMITTEES

### *Officers*

President.....	C. G. Henry, Augusta
President-Elect.....	David R. Thomas, Augusta
Vice-President.....	J. D. Gray, Augusta
Secretary-Treasurer.....	Charles M. Mulherin, Augusta
Delegate.....	R. C. McGahee, Augusta
Delegate.....	W. J. Williams, Augusta
Delegate.....	Geo. W. Wright, Augusta
Alternate Delegate.....	H. P. Harrell, Augusta
Alternate Delegate.....	David R. Thomas, Augusta

### COMMITTEES

#### *All of Augusta*

J. Victor Roule, General Chairman

#### *Hotel and Reception*

Perry P. Volpitto W. A. Risteen

#### *Entertainment*

P. B. Wright

#### *Finance*

Thomas W. Goodwin David R. Thomas

#### *Publicity*

P. A. Mulherin

#### *Transportation*

W. K. Philpot F. N. Harrison C. Monroe Templeton

#### *Golf*

R. L. Rhodes J. P. Hitchcock

#### *Alumni Dinners*

Emory University School of Medicine

Harry T. Harper

University of Georgia School of Medicine

Edgar R. Pund



## MEDICAL ASSOCIATION OF GEORGIA

## COMMITTEES

*Scientific Work*

Edward, J. Whelan, Chairman	Savannah
William P. Harbin, Jr.	Rome
B. E. Collins	Waycross
Edgar D. Shanks, Secretary-Treasurer	Atlanta

*Public Policy and Legislation*

Spencer A. Kirkland, Chairman	Atlanta
J. L. Campbell	Atlanta
Edgar H. Greene	Atlanta
T. F. Abercrombie	Atlanta
Ralph H. Chancy	Augusta
Edgar D. Shanks, Secretary-Treasurer	Atlanta

*Medical Defense*

Marion C. Pruitt, Chairman	Atlanta
B. H. Minchew	Waycross
A. R. Rozar	Macon
Edgar D. Shanks, Secretary-Treasurer	Atlanta

*Advisory State Board of Health*

Edgar H. Greene, Chairman	Atlanta
John B. Fitts	Atlanta
H. G. Weaver	Macon
D. H. Garrison	Clarksville
Marcus Mashburn	Cumming
J. M. Barnett	Albany
J. C. Brim	Pelham
C. S. Pittman	Tifton
C. L. Ayers	Toccoa
W. G. Elliott	Cuthbert
C. W. Roberts	Atlanta
H. G. Lee	Millen

*Hospitals*

D. Henry Poer, Chairman	Atlanta
R. H. Oppenheimer	Atlanta
Cleveland Thompson	Millen
L. P. Holmes	Augusta
A. D. Little	Thomasville
Q. A. Mulkey	Millen
J. T. McCall	Rome
T. G. Ritch	Jesup

*Abner Wellborn Calhoun Lectureship*

James E. Paullin, Chairman	Atlanta
J. R. Broderick	Savannah
Eugene E. Murphey	Augusta
Frank K. Boland	Atlanta
Guy O. Whelchel	Athens

*Medical Economics*

Major Fowler, Chairman	Atlanta
Vernon Powell	Atlanta
Grady N. Coker	Canton
D. C. Kelley	Lawrenceville
T. J. Busey	Fayetteville
J. C. Keaton	Albany
C. W. Roberts	Atlanta
G. Lombard Kelly	Augusta
Ruskin King	Savannah

*Memorial Exercises*

M. Preston Agee, Chairman	Augusta
A. J. Mooney (Deceased)	Statesboro
J. C. Patterson	Cuthbert
Grady N. Coker	Canton
Frank K. Boland	Atlanta
N. R. Thomas	Albany

*Medical History of Georgia*

Frank K. Boland, Chairman	Atlanta
Charles C. Harrold	Macon
J. Calvin Weaver	Atlanta
Olin H. Weaver	Macon
Eugene E. Murphey	Augusta
William R. Dancy	Savannah
L. F. Lanier	Sylvania

*Orthopedics*

Fred G. Hodgson, Chairman	Atlanta
T. P. Goodwyn	Atlanta
F. Bert Brown	Savannah
J. Hiram Kite	Atlanta
L. H. Muse	Atlanta
Peter B. Wright	Augusta
W. A. Newman	Macon
Ed Irwin	Warm Springs
W. L. Funkhouser	Atlanta

*Ophthalmology*

J. Victor Roule, Chairman	Augusta
E. N. Maner	Savannah
Francis B. Blackmar	Columbus
H. M. Moore	Thomasville
Herschel C. Crawford	Atlanta
I. W. Irvin	Albany
W. E. Matthews	Augusta
Mason Baird	Atlanta

*Syphilis*

Harold P. McDonald, Chairman	Atlanta
J. T. McCall	Rome
Willis P. Jordan	Columbus
Wallace Bazemore	Macon
J. Z. McDaniel	Albany
Harry Righton	Savannah
R. F. Wheat	Bainbridge
L. W. Pierce	Waycross
Hartwell Joiner	Gainesville
Robert Greenblatt	Augusta

*Industrial Health*

C. F. Holton, Chairman	Savannah
Thomas P. Goodwyn	Atlanta
W. W. Chrisman	Macon
L. M. Petrie	Atlanta
W. W. Battey	Augusta

*Clinical Pathology*

Edgar R. Pund, Chairman	Augusta
A. J. Ayers	Atlanta
Thomas Harrold	Macon
Lee Howard	Savannah
Thomas J. Ferrell	Waycross

*Student Loan*

Mrs. Lon King, Chairman	Macon
G. Lombard Kelly	Augusta
Richard Hugh Wood	Emory University

*Scientific Exhibits*

R. A. Woodbury, Chairman	Augusta
J. E. Scarborough	Emory University
Lee Howard	Savannah
William F. Lake	Atlanta
John E. Walker	Columbus
Helen W. Bellhouse	Thomasville
R. N. Johnson	Rome
J. Hiram Kite	Atlanta
Max Mass	Macon

*Medical Preparedness*

W. A. Selman, Chairman	Atlanta
John B. Fitts	Atlanta
Edgar D. Shanks	Atlanta

*Post-Graduate Study*

G. Lombard Kelly, Chairman	Augusta
Richard Hugh Wood	Emory University
Richard Torpin	Augusta
R. H. Oppenheimer	Atlanta
Cleveland Thompson	Millen
W. F. Reavis	Waycross

*Liaison Committee—Georgia State Medical Association (Negro)*

M. T. Harrison, Chairman	Atlanta
W. E. Storey	Columbus
R. C. Maddox	Rome
J. F. Hanson	Macon
H. H. Allen	Decatur



*Pediatrics*

W. W. Anderson, Chairman	Atlanta
Philip Mulherin	Augusta
Frank Schley	Columbus
M. M. McCord	Rome
Howard J. Morrison	Savannah

*Appendicitis*

J. C. Patterson, Chairman	Cuthbert
J. K. Quattlebaum	Savannah
C. K. Wall	Thomasville
F. F. Rudder	Atlanta
F. B. Rawlings	Sandersville
B. L. Harbin	Rome
Kenneth McCullough	Waycross
R. L. Rogers	Gainesville
S. D. Brown	Royston
Enoch Callaway	LaGrange
W. M. Feild	Albany
S. E. Sanchez (Deceased)	Barwick

*Awards*

William R. Dancy, Chairman	Savannah
T. S. Gatewood	Americus
M. M. McCord	Rome
T. C. Williams	Valdosta
G. G. Lunsford	Atlanta
J. M. Byne, Jr.	Waynesboro

*Cancer Commission*

J. L. Campbell, Chairman	Atlanta
Everett L. Bishop	Atlanta
Edgar R. Pund	Augusta
Lee Howard	Savannah
Cleveland Thompson	Millen
A. D. Little	Thomasville
J. M. Barnett	Albany
R. C. Pendergrass	Americus
W. F. Jenkins	Columbus
Enoch Callaway	LaGrange
R. H. McDonald	Newnan
James J. Clark	Atlanta
J. E. Scarborough	Emory University
C. C. Harrold	Macon
O. C. Woods	Milledgeville
D. Lloyd Wood	Dalton
J. T. McCall	Rome
D. M. Bradley	Waycross
M. E. Winchester	Brunswick
Hartwell Joiner	Gainesville
Charles R. Andrews, Jr.	Canton
W. H. Roberts	Augusta
S. M. Talmadge	Athens
W. J. Murphy	Atlanta

*Tuberculosis*

C. C. Aven, Chairman	Atlanta
Enoch Callaway	LaGrange
C. D. Wheelchel	Gainesville
R. C. McGahee	Augusta
R. V. Martin	Savannah
Warren Gilbert	Rome
R. C. Major	Augusta
H. C. Schenck	Atlanta
W. C. Cook	Columbus
E. F. Wahl	Thomasville
H. C. Atkinson	Macon
Lucius N. Todd (Deceased)	Augusta
Horace E. Crowe	Rome
A. Worthy Hobby	Atlanta

*Advisory**Woman's Auxiliary*

Eustace A. Allen, Chairman	Atlanta
G. G. Lunsford	Atlanta
John L. Elliott	Savannah
William P. Harbin, Jr.	Rome
John W. Mobley, Jr.	Thomasville
Ralph H. Chaney	Augusta
Bruce Schaefer	Toccoa

*Revision of Pharmacopeia of U. S.*

C. C. Aven, Chairman (1949)	Atlanta
Allen H. Bunce (1949)	Atlanta
Hal M. Davison (1949)	Atlanta

*Maternal Mortality and Infant Deaths*

H. F. Sharpley, Jr., Chairman	Savannah
C. B. Upshaw	Atlanta
Richard Torpin	Augusta
I. M. Lucas	Albany
David M. Wolfe	Albany
O. R. Thompson	Macon
W. C. Goodpasture	Atlanta

## PREPAYMENT MEDICAL PLANS

*State Committee*

B. H. Minchew, General Chairman	Waycross
J. C. Keaton	Albany
Cleveland Thompson	Millen
Major Fowler	Atlanta
J. T. McCall	Rome

*First District*

Lee Howard, Chairman	Savannah
A. B. Daniel	Statesboro
J. L. Elliott	Savannah
R. G. Brown	Swainsboro
Katherine Rawls	Sylvania
J. W. Palmer	Ailey
L. R. Jelks	Reidsville
W. W. Aiken	Lyons
O. D. Middleton	Ludowici

*Second District*

C. K. Wall, Chairman	Thomasville
Harry A. Wasden	Quitman
A. G. Funderburk	Moultrie
M. A. Ehrlich	Bainbridge
I. M. Lucas	Albany
J. V. Rogers	Cairo
D. P. Belcher	Pelham
Mary J. Erickson	Thomasville
C. S. Pittman	Tifton
J. G. Standifer	Blakely
G. S. Sumner	Sylvester

*Third District*

W. G. Elliott, Chairman	Cuthbert
D. B. Ware	Fitzgerald
Charles Adams	Cordele
M. L. Malloy	Vienna
C. P. Savage	Montezuma
John Bush	Columbus
Albert R. Bush	Hawkinsville
J. C. Patterson	Cuthbert
T. Schley Gatewood	Americus
R. C. Montgomery	Butler
J. H. Baxter	Ashburn
John L. Gallemore	Perry

*Fourth District*

Kenneth S. Hunt, Chairman	Griffin
R. L. Hammond	Jackson
S. F. Scales	Carrollton
T. J. Busey	Fayetteville
M. F. Cochran	Newnan
A. W. Carter, Jr.	McDonough
S. B. Traylor	Barnesville
R. B. Gilbert	Greenville
S. L. Waites	Covington
M. M. Head	Zebulon
G. L. Walker	Griffin
Enoch Callaway	LaGrange
R. L. Carter	Thomaston

*Fifth District*

Marion C. Pruitt, Chairman	Atlanta
Major Fowler	Atlanta
L. P. Matthews	Atlanta
H. E. Griggs	Conyers

*Sixth District*

H. D. Allen, Jr., Chairman	Milledgeville
Charles B. Fulghum	Milledgeville
C. H. Richardson	Macon
J. A. Camp	Roberta
E. A. Hensley	Gibson
C. S. Jernigan	Sparta
F. S. Belcher	Monticello
John R. Lewis	Louisville
Joseph D. Zachary	Gray
John A. Bell	Dublin
George H. Alexander	Forsyth
A. S. Sanchez	Atlanta
Ormond Daniel	Jeffersonville
O. D. Lennard	Sandersville
S. N. Rubin	Gordon

*Seventh District*

W. Howard Perkinson, Chairman	Marietta
A. L. Horton	Cartersville
W. B. Hair	Summerville
L. L. Welch	Marietta
C. V. Vansant	Douglasville
Lee H. Battle, Jr.	Rome
J. E. Billings	Calhoun
C. H. Allen	Bremen
Cecil B. Elliott	Cedartown
Frank L. O'Connor	Rossville
H. J. Ault	Dalton

*Eighth District*

W. F. Reavis, Chairman	Waycross
J. T. Holt	Baxley
T. H. Clark	Douglas
Alton M. Johnson	Valdosta
F. L. Mann	McRae
W. L. Pomeroy	Waycross
J. Alvin Leaphart	Jesup

*Ninth District*

C. B. Lord, Chairman	Jefferson
W. T. Randolph	Winder
J. S. Jolly	Homer
C. D. Wheelchel	Gainesville
D. H. Garrison	Clarksville
Bruce Schaefer	Toccoa
A. A. Rogers	Commerce
Marcus Mashburn, Sr.	Cummings
R. T. Jones, III	Canton
J. A. Green	Clayton
Herbert Olnick	Dahlonega
L. G. Neal	Cleveland

*Tenth District*

Harry L. Cheves, Chairman	Union Point
John Simpson	Athens
A. S. Johnson	Elberton
Stewart Brown	Royston
W. H. Lewis	Siloam
A. O. Meredith	Hartwell
B. F. Riley, Jr.	Thomson
J. H. Nicholson	Madison
L. M. Huie	Monroe
A. W. Davis	Warrenton
T. C. Nash	Philomath
W. J. Cranston	Augusta

*Fraternal Delegates to Other State Meetings*

Alabama: D. S. Reese, Carrollton; Mercer Blanchard, Columbus; R. F. Wheat, Bainbridge.  
 Florida: Wm. W. Anderson, Atlanta; John W. Simmons, Brunswick; Hal M. Davison, Atlanta.  
 North Carolina: Allen H. Bunce, Atlanta; Harry T. Harper, Jr., Augusta; W. V. Long, Savannah.  
 South Carolina: J. C. Metts, Savannah; Stewart D. Brown, Royston; J. M. Byne, Jr., Waynesboro.  
 Tennessee: J. T. McCall, Rome; Trammell Starr, Dalton; F. H. Simonton, Chickamauga.

## STATE BOARD OF HEALTH\*

First District: James M. Byne, Jr., Waynesboro, Sept. 1, 1951.

Second District: C. K. Sharp, Arlington, Sept. 1, 1951.  
 Third District: J. C. Patterson, Cuthbert, Sept. 1, 1948.  
 Fourth District: J. A. Corry, Barnesville, Sept. 1, 1949.  
 Fifth District: Robert F. Maddox, Atlanta, Sept. 1, 1948.  
 Sixth District: C. L. Ridley, Macon, Sept. 1, 1950.  
 Seventh District: W. P. Harbin, Jr., Rome, Sept. 1, 1950.  
 Eighth District: B. H. Minchew, Waycross, Sept. 1, 1950.  
 Ninth District: Robert L. Rogers, Gainesville, Sept. 1, 1951.

Tenth District: D. N. Thompson, Elberton, Sept. 1, 1949.

## STATE OF GEORGIA AT LARGE\*\*

*Georgia Dental Association*

W. K. White, Savannah, Sept. 1, 1951.

J. G. Williams, Atlanta, Sept. 1, 1951.

*Georgia Pharmaceutical Association*

George Wright, Tifton, Sept. 1, 1947.

John W. White, Thomasville, Sept. 1, 1947.

\*Nominated by their respective district medical societies and appointed for six year terms.

\*\*Nominated by their respective associations.

## STATE BOARD OF MEDICAL EXAMINERS

T. H. Clark	Douglas
Murdock Euen	Atlanta
Rufus A. Askew	Atlanta
Grady N. Coker	Canton
Steve P. Kenyon	Dawson
Harold P. McDonald	Atlanta
L. G. Neal	Cleveland
J. W. Palmer	Ailey
W. H. Wall	Blakely
R. F. Wheat	Bainbridge

## DISTRICT SOCIETIES

## OFFICERS AND MEETING DATES

*First District*

President—J. M. Byne, Jr., Waynesboro

Secretary—Wm. D. Wilson, Savannah

Third Wednesdays—March and July

*Second District*

President—C. E. Zimmerman, Tifton

Secretary—J. C. Brim, Pelham

Second Thursdays—April and October

*Third District*

President—Willis P. Jordan, Columbus

Secretary—W. G. Elliott, Cuthbert

Third Wednesday in June—Second Wednesday in November

*Fourth District*

President—T. J. Busey, Fayetteville

Secretary—M. M. Head, Zebulon

Second Wednesdays—February and August

*Fifth District*

President—Vernon Powell, Atlanta

Secretary—L. M. Blackford, Atlanta

No set dates

*Sixth District*

President—J. A. Fountain, Macon

Secretary—A. M. Phillips, Macon

Last Wednesday in June—First Wednesday in December

*Seventh District*

President—Fred H. Simonton, Chickamauga

Secretary—Inman Smith, Rome

First Wednesday in April—last Wednesday in September

*Eighth District*

President—J. A. Leaphart, Jesup

Secretary—G. T. Crozier, Valdosta

Second Tuesdays—April and October

*Ninth District*

President—E. W. Grove, Gainesville

Secretary—Pratt Cheek, Gainesville

Dates not specified

*Tenth District*

President—D. N. Thompson, Elberton

Secretary—W. D. Gholston, Danielsville (Deceased)

Second Wednesdays—February and August

## DELEGATES TO THE 1947 SESSION

COUNTIES	NAMES AND ADDRESSES
Appling	C. I. Bryans, Jr., Baxley
Baldwin	Z. S. Sikes, Milledgeville
Banks	
Bartow	W. E. Wofford, Cartersville
Bibb	J. B. Kay, Byron
	W. W. Baxley, Macon
Ben Hill	J. E. Smith, Fitzgerald
Blue Ridge	Thos. J. Hicks, McCaysville
Brooks	
Bulloch-Candler-Evans	R. L. Kennedy, Metter
Burke	D. L. Butterfield, Waynesboro
Carroll-Douglas-Haralson	O. D. King, Bremen
Chatham	
Georgia Medical Society	J. L. Elliott, Savannah
	G. L. Touchton, Savannah
Chattooga	
Cherokee-Pickens	C. J. Roper, Jasper
Clarke-Madison-Oconee	Sam M. Talmadge, Athens
Clayton-Fayette	Y. R. Coleman, Jonesboro
Cobb	M. M. Ilagood, Marietta
Coffee	Dan A. Jardine, Douglas
Colquitt	C. C. Brannen, Moultrie
Coweta	M. F. Cochran, Newnan
Crisp	
Decatur-Seminole	R. F. Wheat, Bainbridge
DeKalb	
Dooley	W. A. Schimmel, Unadilla
Dougherty	J. M. Barnett, Albany
Elbert	
Emanuel	R. G. Brown, Swainsboro
Floyd	Oliver W. Jenkins, Lindale
Forsyth	
Franklin	
Fulton	II. Walker Jernigan, Atlanta
	A. O. Lynch, Atlanta
	Mark S. Dougherty, Atlanta
	Edgar H. Greene, Atlanta
	J. G. McDaniel, Atlanta
	Philip Nippert, Atlanta
	Eustace A. Allen, Atlanta
	R. Hugh Wood, Atlanta
	W. W. Daniel, Atlanta
	McClaren Johnson, Atlanta
Glynn	I. G. Towson, Sea Island
Gordon	
Grady	
Greene	Franklin H. Killam, Greensboro
Gwinnett	
Habersham	Geo. T. Nicholson, Cornelia
Hall	C. D. Wheelchel, Gainesville
Hancock	C. S. Jernigan, Sparta
Hart	
Henry	R. V. Brandon, McDonough
Houston-Peach	
Jackson-Barrow	
Jasper	F. S. Belcher, Monticello
Jefferson	C. Roy Williams, Wadley
Jenkins	
Lamar	
Laurens	C. A. Hodges, Dublin
Macon	
McDuffie	
Meriwether-Harris	V. H. Bennett, Gay
Mitchell	J. C. Brim, Pelham
Monroe	S. D. Work, Jr., Forsyth
Montgomery	
Morgan	
Muscogee	
Newton	J. R. Sams, Covington
Ocmulgee: Bleckley-Dodge-Pulaski	
Polk	J. E. Griffith, Rockmart
Rabun	J. C. Dover, Clayton
Randolph-Terrell	
Richmond	Geo. W. Wright, Augusta
	R. C. McGahee, Augusta
	W. J. Williams, Augusta

Rockdale	
Screven	
South Georgia Medical Society:	Berrien-Clinch-Cook-
Echols-Lanier-Lowndes	E. Harry Mixson, Valdosta
Spalding	H. J. Copeland, Griffin
Stephens	W. Bruce Schaefer, Toccoa
Suaiter	
Tattnall	L. R. Jelks, Reidsville
Taylor	F. H. Sams, Reynolds
Telfair	S. T. Parkerson, McRae
Thomas	Geo. R. Dillinger, Thomasville
Tift	Carl S. Pittman, Jr., Tifton
Toombs	
Tri County Society: Calhoun-Early-	
Miller	J. G. Standifer, Blakely
Tri-County Society: Liberty-Long-McIntosh	
Troup	
Turner	
Upson	R. L. Carter, Thomaston
Walker-Catoosa-Dade	Fred H. Simonton, Chickamauga
Walton	Samuel J. DeFreese, Monroe
Ware	W. F. Reavis, Waycross
Warren	H. T. Kennedy, Warrenton
Washington	R. L. Taylor, Davisboro
Wayne	J. Lawton Tyre, Screven
Whitfield	Truman Whitfield, Dalton
Wilcox	
Wilkes	H. L. Cheves, Union Point
Worth	

## ANNOUNCEMENTS

Meetings will be held in the Bon Air Hotel. Be sure to go to the Registration Desk immediately after your arrival, present your 1947 membership card, register and procure a badge and program.

Discussion of papers is open to all members and guests of the Association; it is not limited to those named on the program.

On arising to discuss a paper the speaker will please announce his name and address clearly for the benefit of the Association and the reporter.

Meetings will be called to order at the hour fixed on the program. It is especially desired that the members be prompt in their attendance.

All manuscript should be typewritten, double spaced, and on one side of the paper only. Papers must be handed to the reporter immediately after being read.

## IMPORTANT NOTICE

Delegates must present written credentials to the Committee on Credentials of the House of Delegates to secure delegates' badges.

Members may not take part in the proceedings until they have registered and procured official badges.

## PUBLIC MEETINGS

*Eastern Standard Time*  
Bon Air Hotel, Augusta

WEDNESDAY, APRIL 23, 8:30 A. M.  
Opening Meeting

WEDNESDAY, APRIL 23, 8:00 P. M.  
Presentation of the President's Gold Key to President.  
Ralph Hill Chaney, Augusta, by R. C. McGahee, Augusta.

THURSDAY, APRIL 24, 12:00 NOON  
President's Address  
*Medicine: Its Problems and Its Solutions*  
Ralph Hill Chaney, Augusta

The President's Address will be at an open session to which the public and visitors are invited.

MEMORIAL EXERCISES  
M. Preston Agee, Augusta  
Chairman, Committee on Necrology



## ENTERTAINMENTS

WEDNESDAY, APRIL 23, 1:00 P. M.

Bon Air Hotel

Annual luncheon of the Georgia Eye, Ear, Nose and Throat Society.

WEDNESDAY, APRIL 23, 12:45 P. M.

Luncheon of the American Medical Women's Association. Bon Air Hotel.

WEDNESDAY, APRIL 23, 6:00 P. M.

Bon Air Hotel

Annual dinner of the alumni of Emory University School of Medicine. Harry T. Harper, Chairman.

Annual dinner of the alumni of University of Georgia School of Medicine. Edgar R. Pund, Chairman.

THURSDAY, APRIL 24, 12:30 P. M.

Bon Air Hotel

Annual Luncheon of the Georgia Pediatric Society. Meeting of the Fellows of the American Academy of Pediatrics will follow immediately.

THURSDAY, APRIL 24, 1:30 P. M.

Bon Air Hotel

Annual luncheon of the Georgia Roentgenological Society.

THURSDAY, APRIL 24, 7:30 P. M.

Annual banquet of the Medical Association of Georgia. Dance

## MEETINGS OF THE HOUSE OF DELEGATES

Bon Air Hotel, Augusta

TUESDAY, APRIL 22, 2:00 P. M.

*Eastern Standard Time*

First meeting of the House of Delegates

1. Call to order by the President

2. Roll Call

3. Appointment of Reference Committees

4. Reports of officers:

President

President-Elect

Vice-Presidents

Parliamentarian

Secretary-Treasurer: Financial report

Reports of Delegates to the A.M.A.

5. Reports of committees:

Scientific Work

Public Policy and Legislation

Arrangements

Medical Defense

Hospitals

Necrology

Cancer Commission

History

Abner Wellborn Calhoun Lectureship

Awards

Advisory—Woman's Auxiliary

Medical Economics

Orthopedics—Advisory, State Department of

Public Welfare

Ophthalmology—Advisory, State Department of

Public Welfare

Syphilis

Tuberculosis

Special Committees

6. Unfinished business

7. New business

TUESDAY, APRIL 22, 8:00 P. M.

*Eastern Standard Time*

Bon Air Hotel, Augusta

Second Meeting of the House of Delegates

1. Call to order by the President

2. Reading of minutes

3. Announcements

4. Report of President of Woman's Auxiliary

5. Reports of committees continued

6. Reports of Fraternal Delegates

7. Unfinished business

8. New business

FRIDAY, APRIL 25, 8:00 A. M.

*Eastern Standard Time*

Bon Air Hotel, Augusta

Third Meeting of the House of Delegates

1. Call to order by the President

2. Reading of minutes

3. Reports of committees

4. Unfinished business

5. New business

## OFFICIAL REPORTER

Miss Winifred H. McLean.....Gastonia, N. C.

## MEETINGS OF THE COUNCIL

TUESDAY, APRIL 22, 5:00 P. M.

*Eastern Standard Time*

Bon Air Hotel, Augusta

The first meeting of the Council will be held Tuesday, April 22, following the afternoon session of the House of Delegates. Each Councilor will render a report of conditions of each county of his district. Other meetings of the Council will be held on the call of the chairman.

## SCIENTIFIC PROGRAM

WEDNESDAY, APRIL 23, 8:30 A. M.

*Eastern Standard Time*

Bon Air Hotel

The papers for each meeting *must* be read as scheduled on the program.

Call to order by the President, Ralph Mill Chaney, Augusta.

*Invocation*

Allen B. Clarkston, Augusta, Pastor

Good Shepherd Church

*Address of Welcome*

W. J. Cranston, Augusta

*Response to Address of Welcome*

W. A. Selman, Atlanta

WEDNESDAY, APRIL 23, 8:30 A. M.

*Eastern Standard Time*

Bon Air Hotel

*The time allotted to each paper, which INCLUDES the showing of slides or moving pictures, is 12 minutes.*

1. Vagotomy.

John W. Turner, Atlanta.

2. Carcinoma of the Colon.

J. D. Martin, Jr., Atlanta.

3. Surgery of the Colon and Rectum.

Edgar Boling, Atlanta.

4. The Prevention of Pulmonary Complications After Surgery.

Maxwell Berry, Atlanta.

5. Early Ambulation and Its Advantages.

T. C. Davison, Atlanta.

A. H. Letton, Atlanta.

6. Morton's Toe.

J. H. Kite, Atlanta.

7. Report on the Work of the Crippled Children's Service of the State Welfare Department.

Fred G. Hodgson, Atlanta.

8. The Medical Management of Postoperative Complications of Thyroidectomy.

Paul Vella, Atlanta.

9. The Fate of Patients in Georgia with Lung Abscesses.

Robert C. Major, Augusta.

Hal B. McLean, Augusta.

To lead the discussion:

H. M. McKemie, Albany.

I. A. Ferguson, Atlanta.

B. Lester Harbin, Rome.

Kenneth McCullough, Waycross.

WEDNESDAY, APRIL 23, 12:00 NOON

*Eastern Standard Time*

Bon Air Hotel

## ABNER WELLBORN CALHOUN LECTURE

*The Later Years*

Edward L. Bortz, Philadelphia.

Introduction by James E. Paullin, Atlanta.

WEDNESDAY, APRIL 23, 2:30 P. M.

*Eastern Standard Time*

Bon Air Hotel

*The time allotted to each paper, which INCLUDES the showing of slides or moving pictures, is 12 minutes.*

1. Experiences With the New Method for the Control of Intrathoracic Aneurysms.  
Osler A. Abbott, Atlanta.

2. Clinical Significance of Hemoptysis: A Study of 1500 Patients with Chest Disease.  
William A. Hopkins, Atlanta.

To lead the discussion of papers 1 and 2:  
Robert C. Major, Augusta.

3. Carcinoma of the Cervix.  
Robert L. Brown, Atlanta.

J. E. Scarborough, Atlanta.

4. Excision of the Culdesac of Douglas for the Surgical Cure of Prolapse of the Uterus. Report of 40 Cases.  
Richard Torpin, Augusta.

5. Influence of Morphine on the Uterus of Humans.  
Robert A. Woodbury, Augusta.

6. Arrhenoblastoma.  
C. J. Roper, Jasper.

To lead the discussion of papers 3, 4, 5, and 6:  
Walter R. Holmes, Atlanta.

7. Paroxysmal Hemoglobinuria.  
W. G. Elliott, Cuthbert.

8. Hydronephrosis.  
Spencer A. Kirkland, Atlanta.

9. Perineal Prostatectomy.  
William E. Goodyear, Atlanta.

10. Urologic Problems of Children.  
Harold P. McDonald, Atlanta.

To lead the discussion of papers 7, 8, 9, and 10:

Rudolph Bell, Thomasville.  
J. Righton Robertson, Augusta.  
L. W. Shaw, Savannah.  
L. W. Pierce, Waycross.

WEDNESDAY, APRIL 23, 8:00 P. M.

*Eastern Standard Time*

Bon Air Hotel

Presentation of the President's Gold Key to the President, Ralph Hill Chaney, Augusta, by R. C. McGahee, Augusta.

*Bilateral Supradiaphragmatic Splanchnicectomy in the Treatment of Arterial Hypertension.*

Max M. Peet, Ann Arbor, Mich.

Introduction by Robert C. Major, Augusta.

*Meeting the Communicable Disease Problem in South-eastern United States.*

R. A. Vonderlehr, Atlanta.

Introduction by T. F. Sellers, Atlanta.

*How Is Poliomyelitis to Be Controlled?*

Howard A. Howe, Baltimore, Md.

Introduction by Ed Irwin, Warm Springs.

THURSDAY, APRIL 24, 8:30 A. M.

*Eastern Standard Time*

Bon Air Hotel

*The time allotted to each paper, which INCLUDES the showing of slides or moving pictures, is 12 minutes.*

1. Eczema at the Body Orifices.

Howard Hailey, Atlanta.

2. Silicosis.

Thomas J. Hicks, McCaysville.

3. Differential Diagnosis of Anterior Chest Pain.  
Bruce Logue, Atlanta.

4. Sickle-Cell Anemia. Report of pregnancy, labor and delivery of a living infant.

J. C. Neal, Augusta.  
V. P. Sydenstricker, Augusta.  
Richard Torpin, Augusta.

To lead the discussion of papers 1, 2, 3, and 4:

H. C. Atkinson, Macon.

John E. Walker, Columbus.

5. The Dynamics of Depressive Reactions.  
Lawrence F. Woolley, Atlanta.

6. Narcohypnosis in Medical Practice.

Harry A. Lipton, Atlanta.

James K. Fancher, Atlanta.

7. Prison Psychosis.

Marion Estes, Augusta.

James S. New, Augusta.

8. Chronic Alcoholism.

John C. Campbell, Atlanta.

To lead the discussion of papers 5, 6, 7, and 8:

J. C. Massee, Atlanta.

E. W. Allen, Milledgeville.

9. Georgia's Plan for Increased Hospital Facilities and Health Centers.

Guy G. Lunsford, Atlanta.

To lead the discussion:

Stewart Brown, Royston.

Enoch Callaway, LaGrange.

THURSDAY, APRIL 24, 12:00 NOON

*Eastern Standard Time*

Bon Air Hotel

President's Address

*Medicine: Its Problems and Its Solutions*

Ralph Hill Chaney, Augusta

Memorial Exercises

M. Preston Agee, Augusta

Chairman, Committee on Necrology

THURSDAY, APRIL 24, 2:30 P. M.

*Eastern Standard Time*

Bon Air Hotel

*The time allotted to each paper, which INCLUDES the showing of slides or moving pictures is, 12 minutes.*

1. Paranasal Sinusitis Infection in Infants and Children.  
Taylor S. Burgess, Atlanta.

2. Trends in Pediatric Immunology.

W. C. Boswell, Macon.

To lead the discussion of papers 1 and 2:

R. C. McGahee, Augusta.

Edwin R. Watson, Macon.

3. Problems of Roentgen Diagnosis and Therapy.

- a. The Roentgenologic Diagnosis of Tumors of the Small Intestine.

Clarence Allen Good, Jr., Rochester, Minn.

Introduction by James J. Clark, Atlanta.

- b. The Incidence of Bone Tumors in a Large General Hospital.

L. P. Holmes, Augusta.

Stephen W. Brown, Augusta.

David Robinson, Augusta.

- c. Roentgenologic Survey of the Urinary Tract.

James J. Clark, Atlanta.

- d. Diverticulitis of the Sigmoid with Obstruction.

H. H. McGee, Savannah.

- e. Use of Acacia-Skiodan Mixture in Hysterosalpingography.

Max Mass, Macon.

- f. Metastatic Cancer of the Lung.

R. C. Pendergrass, Americus.

To lead the discussion:

Robert Drane, Savannah.

Albert Rayle, Atlanta.

FRIDAY, APRIL 25, 9:00 A. M.

*Eastern Standard Time*

Bon Air Hotel

*The time allotted to each paper, which INCLUDES the showing of slides or moving pictures, is 12 minutes.*

1. Familial Non-Specific Positive Reactions to Serologic Tests for Syphilis.

Arthur G. Singer, Jr., Toccoa.

2. The Treatment of Early Syphilis with Penicillin in Peanut Oil and Beeswax.  
Albert Heyman, Atlanta.
3. The Use of Penicillin in Tertiary Syphilis of the Nervous System as Compared with Malaria-Penicillin Simultaneously: Seventy cases presented.  
V. M. Pennington, Milledgeville.
4. Venapuncture Technic.  
B. C. Blaine, Atlanta.
5. Cirrhosis of the Liver.  
Eustace A. Allen, Atlanta.  
To lead the discussion of papers 1, 2, 3, 4, and 5:  
Jack C. Norris, Atlanta.  
Robert B. Greenblatt, Augusta.
6. Pigmented Lesions of the Eye and Adnexae.  
F. Phinizy Calhoun, Jr., Atlanta.
7. Nature's Disturbances and Cures in Ophthalmology.  
Elton S. Osborne, Savannah.
8. The How and Why of Visual Tests.  
H. R. Perkins, Griffin.  
To lead the discussion of papers 6, 7, and 8:  
B. H. Minchew, Waycross.  
Lewis Patton, Athens.

### ELECTION OF OFFICERS

FRIDAY, APRIL 25, 12:00 NOON

*Eastern Standard Time*

Bon Air Hotel

President-Elect  
First Vice-President  
Second Vice-President  
Selection of meeting place for 1948

### CONSTITUTION AND BY-LAWS

Chapter II. Section 2. No papers or addresses before the Association, except those of the President and invited essayists, shall occupy more than fifteen minutes in their delivery; and no member shall speak longer than five minutes, nor more than once on any subject, provided that each essayist shall have five minutes in which to close the discussion of his paper.

Chapter VIII. Section 1. The deliberations of this Association shall be governed by parliamentary usage as contained in Robert's Rules of Order, when not in conflict with this Constitution and By-Laws.

Chapter VIII. Section 2. All papers read before the Association shall become its property. Each paper shall be deposited with the Secretary when read, and if this is not done it shall not be published.

No miscellaneous or business matters will be discussed before the scientific meetings, but will be referred to the House of Delegates.

### *Resolution Adopted 1921*

Resolved: That a member who sends in a title of a paper to be placed on the program and is not present to read the paper shall pay the penalty of not having an opportunity to appear on the program for two years, unless he presents an excuse acceptable to the Committee on Scientific Work.

We are instructed by the President to announce to all essayists that the sessions of the Scientific Program of the Association will begin on time, and that the above regulations of the By-Laws in reference to the program will be strictly enforced.

### COMMITTEE ON SCIENTIFIC WORK

Edward J. Whelan, Chairman.....Savannah  
William P. Harbin, Jr.....Rome  
B. E. Collins.....Waycross  
Edgar D. Shanks, Secretary-Treasurer.....Atlanta

### IN MEMORIAM

Allen, L. C., Hoschton, March 6, 1947, aged 85.  
Banister, H. G., Fla., March 2, 1947, aged 56.  
Borders, Dennis J., Calhoun, November 4, 1946, aged 74.  
Bray, Herschel Baker, Sr., Wrightsville, July 2, 1946, aged 51.  
Brown, Joseph Alonzo, Shady Dale, October 18, 1946, aged 77.  
Brown, Walter Edward, Lumpkin, July 24, 1946, aged 39.  
Burdett, Joseph R., Tennille, December 9, 1946, aged 84.  
Carter, Grady Lumsden, Talbotton, October 15, 1946, aged 57.  
Clay, Grady Edward, Atlanta, July 11, 1946, aged 57.  
Cline, Bernard McHugh, Atlanta, January 26, 1947, aged 66.  
Coleman, Robert T., Young Harris, May 16, 1946, aged 75.  
Colvin, Emmett G., Locust Grove, February 27, 1947, aged 70.  
Conn, Webb, Brunswick, August 21, 1946, aged 67.  
Copeland, Benjamin Hill, Shiloh, July 18, 1946, aged 79.  
Corson, Eugene Rollin, Savannah, June 10, 1946, aged 91.  
Covington, James Felton, Monroe, August 21, 1946, aged 70.  
Elder, David G., Chickamauga, September 7, 1946, aged 82.  
Fambrough, Wm. Meigs, Bostwick, August 22, 1946, aged 74.  
Ferguson, Charles Henry, Thomasville, June 2, 1946, aged 78.  
Ferguson, David, Milledgeville, August 19, 1946, aged 53.  
Flowers, Arthur Preston, Atlanta, July 15, 1946, aged 70.  
Garver, Carl Clifton, Atlanta, September 10, 1946, aged 43.  
Gaston, Joseph Harper, Columbus, July 14, 1946, aged 46.  
Gheesling, Goodwin, Greensboro, June 22, 1946, aged 57.  
Gholston, William Dabney, Danielsville, December 17, 1946, aged 76.  
Grace, John T., Atlanta, June 22, 1946, aged 89.  
Gray, Robert Marion, Curryville, June 27, 1946, aged 82.  
Hall, Oliver Doyle, Atlanta, August 13, 1946, aged 69.  
Harden, Otho Napoleon, Cornelia, May 30, 1946, aged 80.  
Hawkins, Thaddeus Isaiah, Griffin, June 3, 1946, aged 58.  
Hembree, John Alexander, Pearson, September 15, 1946, aged 67.  
Holmes, Champneys Holt, Atlanta, June 12, 1946, aged 52.  
Howard, Ben H., Dawsonville, May 7, 1946, aged 67.  
Johnson, Trimble Clarence, Atlanta, October 6, 1946, aged 52.  
Kafka, Joseph, Jr., Augusta, November 5, 1946, aged 50.  
Longino, Thomas Dick, Atlanta, January 28, 1947, aged 100.  
Mallory, Roger Atkinson, Concord, December 28, 1946, aged 83.  
McAfee, Jesse G., Dalton, December 28, 1946, aged 83.  
McKay, Carl Gordon, Atlanta, June 13, 1946, aged 60.  
Mooney, Alfonso John, Sr., Statesboro, December 12, 1946, aged 71.  
Mullino, Frederick M., Montezuma, December 12, 1946, aged 79.  
Neuffer, Frank Henry, Atlanta, June 16, 1946, aged 39.  
Newberry, Richard Emmett, Atlanta, August 12, 1946, aged 50.  
O'Kelly, Benjamin Ivy, Round Oak, February 25, 1946, aged 74.  
Osborne, Lewis N., Atlanta, January 15, 1947, aged 79.  
Pittard, L. Y., Monticello, Feb. 14, 1947, aged 60.  
Rivers, Walter A., Glenwood, September 28, 1946, aged 79.  
Sanchez, Simeon Edward, Barwick, July 16, 1946, aged 68.  
Smisson, Roy Clayton, Fort Valley, December 20, 1946, aged 54.  
Todd, Lucius N., Augusta, December 12, 1946, aged 56.  
Turner, William Joseph, Ashburn, June 10, 1946, aged 78.  
Williams, Adrain Dallas, Folkston, August 3, 1946, aged 67.  
Williams, George Julius, Atlanta, July 2, 1946, aged 32.



## SCIENTIFIC EXHIBITS

*Chest Surgery*—L. P. Holmes, Robert C. Major, Dave Robinson, Stephen Brown, Departments of Roentgenology and Thoracic Surgery, University of Georgia School of Medicine, Augusta.

*Clinical Acidosis*—A. P. Briggs, Department of Medicine and Biochemistry, University of Georgia School of Medicine, Augusta.

*Dysmenorrhea*—R. A. Woodbury, Richard Torpin, George P. Child, W. S. Boyd, Jr., J. L. Allgood, J. C. Neale, H. L. Cheshire, Departments of Pharmacology, Obstetrics and Gynecology, University of Georgia School of Medicine, Augusta.

*Mental Hygiene Clinic*—R. E. Peck, Veterans Administration Office No. 16, Atlanta.

*Pellet Implantation in Endocrine Disorders*—Robert B. Greenblatt, Augusta.

*Pigmented Lesions of the Eye and Adnexae*—F. Phinizy Calhoun, Atlanta. Presented by the L. F. Montgomery Laboratory of Ocular Pathology of the Department of Ophthalmology of Emory University School of Medicine, Emory University.

*Skin Tumors*—Philip H. Nippert, Atlanta.

*The Practical Use of Inhalation Therapy*—Maxwell Berry, Atlanta.

*The Two-Hour Pregnancy Test*—H. S. Kupperman, Robert Greenblatt, Augusta.

*The Value of Vaginal and Cervical Spreads for Early Recognition of Carcinoma*—Edgar R. Pund, H. E. Neibergs, J. B. Nettles, Department of Pathology, University of Georgia School of Medicine, Augusta.

*Urethrography*—Donald E. Beard, H. S. Weens, Atlanta.

*Vascular Surgery* from the Department of Surgery—Emory University School of Medicine, Daniel C. Elkin, Frederick W. Cooper, Emory University.

*Cancer Commission*, Medical Association of Georgia.

*Woman's Auxiliary*—Fulton County Medical Society, Atlanta.

*Woman's Auxiliary*—Richmond County Medical Society, Augusta.

## TECHNICAL EXHIBITS

Bon Air Hotel

Augusta

April 22-25, 1947

5. C. B. Fleet Company, Inc.  
921-927 Commerce Street, Lynchburg, Va.  
W. E. Avery, 127 Ponce de Leon Court, Decatur, Ga.
6. Mead Johnson & Company  
Evansville 21, Ind.  
J. H. Gilmore, 1672 Emory Road, N.E., Atlanta, Ga.
7. Meta Cine Company  
546 McCallie Avenue, Chattanooga, Tenn.  
Ben Perryman, P. O. Box 242, Atlanta, Ga.
8. Parke, Davis & Company  
Detroit 32, Mich.
9. Everhart Surgical Supply Company  
499 Peachtree Street, N.E., Atlanta, Ga.
10. Estes Surgical Supply Company  
56 Auburn Avenue, N.E., Atlanta, Ga.
11. Burroughs Wellcome & Company, Inc.  
9 & 11 East 41st Street, New York 17, N. Y.
12. Holland-Rantos Company, Inc.  
551 Fifth Avenue, New York, N. Y.
13. The Doho Chemical Corporation  
58 Varick Street, New York 13, N. Y.
14. The Borden Company  
350 Madison Avenue, New York 17, N. Y.
15. Eli Lilly and Company  
Indianapolis 6, Ind.
16. A. S. Aloe Company  
1831 Olive Street, St. Louis 3, Mo.  
W. W. Clary, Box 297, Vienna, Ga.
17. The Wm. S. Merrell Company  
Lockland Station, Cincinnati, O.
18. Bilhuber-Knoll Corporation.  
Crane Street, Orange, N. J.
19. Ciba Pharmaceutical Products, Inc.  
LaFayette Park, Summit, N. J.
20. Ayerst, McKenna & Harrison, Ltd.  
22 East 40th Street, New York 16, N. Y.
21. H. W. Kinney and Sons, Inc.,  
Columbus, Ind.
22. White Laboratories, Inc.  
113 North 13th Street, Newark 7, N. J.
23. L. & B. Reiner  
139 East 23rd Street, New York 10, N. Y.
24. G. D. Searle & Company  
P. O. Box 5110, Chicago 80, Ill.
25. Ames Company, Inc.  
Elkhart, Ind.
26. Winthrop Chemical Company, Inc.  
170 Varick Street, New York 13, N. Y.
27. Walker Vitamin Products, Inc.  
Mount Vernon, N. Y.
28. U. S. Vitamin Corporation  
250 East 43rd Street, New York 17, N. Y.
29. Pet Milk Sales Corporation  
General Offices Arcade Building, St. Louis 1, Mo.
30. The S. & H. X-Ray Company  
501 Peachtree Street, N.E., Atlanta 3, Ga.
31. Ortho Pharmaceutical Corporation  
Raritan, N. J.
32. Schering Corporation  
2 Broad Street, Bloomfield, N. J.
33. Van Pelt and Brown, Inc.  
Richmond, Va.
34. E. R. Squibb & Sons  
745 Fifth Avenue, New York 22, N. Y.
35. Sharp & Dohme, Inc.  
Philadelphia 1, Pa.
36. Surgical Selling Company  
139 Forrest Avenue, N.E., Atlanta, Ga.
37. Wm. P. Poythress & Company, Inc.  
Richmond, Va.
38. Carnation Company  
Oconomowoc, Wis.
39. American Surgical Supply Company  
489 Peachtree Street, N.E., Atlanta 3, Ga.
40. Doak Company, Inc.  
2132 East 9th Street, Cleveland, O.
41. Maico Hearing Service  
225 Peachtree Arcade, Atlanta 3, Ga.
42. Lederle Laboratories Division  
American Cyanamid Company  
30 Rockefeller Plaza, New York 20, N. Y.
43. Fillauer Surgical Supplies  
930 East Third Street, Chattanooga, Tenn.
44. J. A. Majors  
1301 Tulane Avenue, New Orleans 13, La.
45. A. H. Robins Company  
Richmond 19, Va.
46. Wyeth, Inc.  
1600 Arch Street, Philadelphia 3, Pa.
47. Wachtel's Physician Supply Company  
406-10 Bull Street, Savannah, Ga.
48. General Electric X-Ray Corporation  
205 Spring Street, N.W., Atlanta, Ga.
49. Chas. C. Haskell & Company, Inc.  
Richmond 19, Va.
50. Vaponefrin Company.  
6812 Market Street, Upper Darby, Pa.

## CONSTITUTION AND BY-LAWS OF THE MEDICAL ASSOCIATION OF GEORGIA

### Constitution

#### ARTICLE I.—NAME OF THE ASSOCIATION

The name and title of this organization shall be the Medical Association of Georgia.

#### ARTICLE II.—PURPOSES OF THE ASSOCIATION

The purpose of this Association shall be to federate

and bring into one component organization the entire medical profession of the State of Georgia; to extend medical knowledge and advance medical science; to elevate the standard of medical education and to secure the enactment and enforcement of just medical laws; to promote friendly intercourse among physicians; to guard and foster the material interests of its members and to protect them against imposition; and to enlighten and direct public opinion in regard to the great problems of state and medicine, so that the profession shall become more capable and honorable within itself, and more useful to the public, in the prevention and cure of disease, and in prolonging and adding comfort to life.

#### ARTICLE III.—COMPONENT SOCIETIES

Component societies shall consist of those county societies which hold charters from this Association.

#### ARTICLE IV.—COMPOSITION OF THE ASSOCIATION

Section 1. This Association shall consist of members and delegates.

Sec. 2. Members: The members of this Association shall be the members of the component county medical societies to which only white physicians shall be eligible.

Sec. 3. Delegates: Delegates shall be those members who are elected in accordance with this Constitution and By-Laws to represent their respective component societies in the House of Delegates of this Association.

#### ARTICLE V.—HOUSE OF DELEGATES

The House of Delegates shall be the legislative body of the Association, and shall consist of: (1) delegates elected by the component county societies; (2) the officers of the Association enumerated in Section 1 of Article IX of the Constitution; (3) ex-presidents and delegates to the American Medical Association.

#### ARTICLE VI.—COUNCIL

The Council shall be the Board of Trustees and Finance Committee of the Association. The Council shall have full authority and power of the House of Delegates between annual sessions, unless the House of Delegates be called into session as provided in the Constitution and By-Laws.

It shall consist of the Councilors, the President, the President-Elect and the Secretary-Treasurer of the Association. Five of its members shall constitute a quorum.

#### ARTICLE VII.—SESSIONS AND MEETINGS

Section 1. The annual session shall take place on the second Wednesday in May at such place as shall be designated by the Association, provided that in case of conflict with the annual session of the American Medical Association or on petition of the county society of the host city made at least six months before the fixed dates for the annual session, the Council may change the dates by publishing a notice in the JOURNAL OF THE MEDICAL ASSOCIATION OF GEORGIA three months before the session.

Sec. 2. Special meetings of either the Association or the House of Delegates may be called by a two-thirds vote of the Council, or upon the petition of twenty delegates.

#### ARTICLE VIII.—SECTIONS AND DISTRICT SOCIETIES

Section 1. The House of Delegates may provide for a division of the scientific work of the Association into appropriate sections, and for the organization of such

Councilor district societies as will promote the best interests of the profession, such societies to be composed exclusively of members of component county societies.

#### ARTICLE IX.—OFFICERS

Section 1. The officers of this Association shall be a President, President-Elect, two Vice-Presidents, a Secretary-Treasurer, a Parliamentarian, and one Councilor for each congressional district in the State.

Sec. 2. The officers, except the Secretary-Treasurer, Parliamentarian and Councilors, shall be elected annually, provided that after the annual meeting of 1923 a President-Elect and not a President shall be elected annually. The President-Elect shall assume his office as President immediately after the next annual meeting following his election. The terms of the Councilors shall be for three years, as may be arranged, viz: the Councilor for the first, second, third and fourth districts for three years; those for the fifth, sixth, seventh, and eighth districts for one year; those for the ninth and tenth districts for two years. The Secretary-Treasurer shall be elected for a term of five years, and the Parliamentarian for a term of three years. All these officers shall serve until their successors are elected and installed (1933).

Sec. 3. The officers of this Association shall be elected by ballot at 12 o'clock noon on the third day of the annual session. Nomination for office shall be made orally, but the nominating speech must not exceed two minutes. The Councilors shall be elected at the same time on nomination by their respective district societies at the annual meetings of such societies preceding the annual session of the Association at which the vacancies occur, but if no nomination from a district society is brought before the Association, the nomination for Councilor may be presented from the floor. If there is no election on the first ballot, the three names receiving the highest number of ballots shall be voted on, the other names being dropped. If there is no election on the second ballot, the two names receiving the highest number of ballots shall be voted on until an election occurs. Delegates to the American Medical Association shall be elected at the same time and in the same manner.

Sec. 4. The members of the State Board of Health shall be nominated by their respective district societies at the annual meeting of such societies preceding the annual session of this Association, and in failure of nomination by district societies, they may be nominated by the delegates present from each of the district societies, all of which shall be ratified by this Association.

#### ARTICLE X.—FUNDS AND EXPENSES

Funds shall be raised by an equal per capita assessment on each component society. The amount of the assessment shall not exceed the sum of \$10.00 per capita per annum. Funds may be appropriated by the House of Delegates to defray the expenses of the Association, for publications, and for such other purposes as will promote the welfare of the profession. All resolutions appropriating funds must be approved by the Finance Committee before action is taken thereon.

#### ARTICLE XI.—RATIFICATION

The House of Delegates shall submit all questions before it to the Association for ratification.



## ARTICLE XII.—THE SEAL

The Association shall have a common seal, with power to break, change or renew the same at pleasure.

## ARTICLE XIII.—AMENDMENTS

Any amendment that may be offered to the Constitution shall lie over until the next annual session; and for its adoption at such session shall require a two-thirds vote of all present and voting.

## By-Laws

## CHAPTER I.—MEMBERSHIP

Section 1. The name of a physician on the properly certified roster of members of a component society, which has paid its annual assessment, shall be *prima facie* evidence of membership in this Association.

Sec. 2. Any person who is under sentence of suspension or expulsion from a component society or whose name has been dropped from its roll of members, shall not be entitled to any of the rights or benefits of this Association, nor shall he be permitted to take part in any of its proceedings until he has been relieved of such disability.

Sec. 3. Each member in attendance at the annual session shall enter his name on the registration book, indicating the component society of which he is a member. When his right to membership has been verified by reference to the roster of his society, he shall receive a badge which shall be evidence of his right to all the privileges of membership at that session. No member shall take part in any of the proceedings of an annual session until he has complied with the provisions of this section.

Sec. 4. Special membership. In addition to *Regular* members, component societies may elect to membership in their organizations, for membership in this Association, the following groups of members:

(a) *Honorary members.* Any member for old age, length of service, or other good reason, may be elected an honorary member of his county medical society, for membership in this Association. Such member shall, after election, be issued a certificate of honorary membership in this Association.

Non-resident physicians and resident or non-resident lay persons who have distinguished themselves in fields of endeavor devoted to the advancement of human welfare, may be nominated by county medical societies, or by the House of Delegates of this Association, for honorary membership in this Association. A county medical society shall not nominate for this class of membership more than one person each year. The name of such person shall be sent to the Secretary-Treasurer of this Association thirty days in advance of the annual session. Such person shall be issued an appropriate certificate of honorary membership in this Association if, and when, he is elected to honorary membership by this Association.

(b) *Associate Members.* Eligible to this classification are (1) those regular members of component societies to whom the payment of dues would be an undue hardship; (2) interns, and (3) commissioned medical officers (see Chapter VII, Sec. 5 of these By-Laws) of the United States Army, the United States Navy and the United States Public Health Service while engaged

actively in their respective services or if they have been retired on account of age or physical disability, or after long and honorable service, under the provisions of an Act of Congress.

(c) Honorary and Associate members shall not be subject to the payment of dues to the State Association. They shall enjoy the privilege of full participation in the scientific, social and educational activities of this Association. They shall not vote nor hold office and do not receive the *JOURNAL* or benefits of Medical Defense.

Sec. 5. Any physician applying for membership in a component medical society of this Association, who has previously practiced in a county in which affiliation with a component society is provided, and who moves to another county without having affiliated with the medical society in the jurisdiction of previous residence, before he is admitted to membership, the cause of his lack of affiliation in the society of his previous residence shall be ascertained.

## CHAPTER II.—GENERAL MEETINGS

Section 1. All registered members may attend and participate in the proceedings and discussions of the general meetings. Visitors duly accredited to represent the associations of other states, or of the District of Columbia, not exceeding two in number for each organization, may attend upon, and participate in, the discussion of the general meeting, but shall not have a vote. Such delegates may read papers upon invitation of the Committee on Scientific Work. The general meetings shall be presided over by the President or by one of the Vice-Presidents.

Sec. 2. No papers or addresses before the Association, except those of the President and invited essayists, shall occupy more than fifteen minutes in their delivery; and no member shall speak longer than five minutes, nor more than once on any subject, provided that each essayist shall have five minutes in which to close the discussion of his paper.

Sec. 3. Entertainment. Any social entertainment which may be given by this Association shall be confined to the evening of the second day.

Sec. 4. Guests. Any physician not a resident of this State but a member of his state association, or any distinguished scientist not a physician, may be counted a guest during any annual session on invitation of the President, and shall be accorded the privilege of participating in the scientific work of that session.

## CHAPTER III.—HOUSE OF DELEGATES

Section 1. The House of Delegates shall meet on the day preceding the first day of the annual session, the time to be fixed by the Committee on Scientific Work. It may adjourn from time to time as may be necessary to complete its business; provided that its hours shall conflict as little as possible with the general meetings. The order of business shall be arranged as a separate section of the program.

Sec. 2. Each component county society shall be entitled to send to the House of Delegates each year one delegate for every fifty members, and one for each fraction thereof, but each component society which has made its annual report and paid its assessment as provided in this Constitution and By-Laws shall be entitled to one delegate. Should the regular delegate from any county



not be present at the meeting, the President shall appoint a substitute from that county to act.

Sec. 3. Twenty delegates present shall constitute a quorum.

Sec. 4. It shall, through its officers, council and otherwise, give diligent attention to and foster the scientific work and spirit of the Association, and shall constantly study and strive to make each annual session a stepping-stone to future ones of higher interest.

Sec. 5. It shall consider and advise as to the material interest of the profession, and of the public in those important matters wherein it is dependent on the profession, and shall use its influence to secure and enforce all proper medical and public health legislation, and to diffuse popular information in relation thereto.

Sec. 6. It shall make careful inquiry into the condition of the profession of each county in the State, and shall have authority to adopt such methods as may be deemed most efficient for building up and increasing the interest of such county societies as already exist, and for organizing the profession in counties where societies do not exist. It shall especially and systematically endeavor to promote friendly intercourse among physicians of the same locality, and shall continue these efforts until, if possible, every physician in every county of the State has been brought under medical society influence.

Sec. 7. It shall encourage post-graduate and research work as well as home study, and shall endeavor to have the results utilized, and intelligently discussed in the county societies.

Sec. 8. It shall divide the State into councilor districts, one for each congressional district, and when the best interests of the Association and profession will be promoted thereby, organize in each a district medical society, and all members of component county societies and no others shall be members in such district societies.

Sec. 9. It shall have authority to appoint committees for special purposes from among members of the Association who are not members of the House of Delegates. Such committees shall report to the House of Delegates and may be present and participate in the debate thereon.

#### CHAPTER IV.—DUTIES OF OFFICERS

Section 1. The President shall preside at all meetings of the Association and of the House of Delegates; shall appoint all committees not otherwise provided for, and shall perform such other duties as custom and parliamentary usage may require. He shall be the real head of the profession of the State during his term of office, and as far as practicable, shall visit, by appointment, the various sections of the State and assist the Councilors in building up the county societies, and in making their work more practical and useful.

In order to give him a better opportunity of becoming more fully acquainted with his duties and with the needs of the Association, the President shall be elected one year prior to taking office. During this time he shall be known as President-Elect and shall be ex-officio member of standing committees, and shall make recommendations at the next annual session.

Sec. 2. The Vice-Presidents shall assist the President in the discharge of his duties. In the event of the

President's death, resignation or removal, the Vice-Presidents, in their order, shall succeed him.

Sec. 3. The Secretary-Treasurer shall give bond in the sum of One Thousand Dollars. He shall demand and receive all funds due the Association, together with the bequests and donations.

Sec. 4. The Secretary-Treasurer shall attend the general meetings of the Association and the meetings of the House of Delegates, and shall keep the minutes of their respective proceedings in separate record books. He shall be ex-officio Secretary of the Council. He shall be custodian of all record-books and papers belonging to the Association. He shall provide for the registration of the members, delegates and accredited visitors at the annual session. He shall, with the cooperation of the secretaries of the component societies, keep a card-index register of all the legal practitioners of the State by counties, noting on each his status in relation to his county society, and on request transmit a copy of this list to the American Medical Association. He shall aid the Councilors in the organization and improvement of the county societies in the extension of the power and usefulness of this Association. He shall conduct the official correspondence, notifying members of meetings, officers of their election, and committees of their appointment and duties. He shall employ such assistants as may be ordered by the House of Delegates with the approval of the Association, and shall make an annual report to the Association. He shall supply each component society with the necessary blanks for making their annual reports; shall keep an account with the component societies, charging against each society its assessment and collect the same. Acting with the Committee on Scientific Work, he shall prepare and issue all programs. The amount of his salary shall be fixed by the Association. He shall be editor of the JOURNAL OF THE MEDICAL ASSOCIATION OF GEORGIA. He shall employ such assistants as may be ordered by the Council or the House of Delegates. He shall annually make a report of his doings to the House of Delegates.

He shall furnish a balance sheet at each annual meeting for the past fiscal year to be published in the JOURNAL. This shall consist of an itemized statement of all financial transactions of the past year, all accounts made, money received and from whom, all moneys disbursed, to whom, and for what purpose, with vouchers attached. A fiscal year includes the period of time between the first day of May and the last day of April.

#### CHAPTER V.—COUNCIL

Section 1. The Council shall meet on the day preceding the annual session and daily during the session, and at such other times as necessity may require, subject to the approval of the President. It shall meet on the last day of the annual session of the Association to organize and outline work for the ensuing year. It shall elect a chairman and clerk, who, in the absence of the Secretary of the Association, shall keep a record of its proceedings. It shall, through its chairman, make an annual report to the House of Delegates. It shall be the business body of the Association and attend to the business of the Association in the interim between meetings.

Sec. 2. Each Councilor shall be organizer and peace-maker for his district. He shall visit each county in his district at least once a year for the purpose of organizing

component societies where none exist, for inquiring into the conditions of the profession, and for improving and increasing the zeal of the county societies and their members. He shall make an annual report of his work and of the condition of the profession of each county in his district at the annual session of the House of Delegates. The necessary traveling expenses incurred by such Councilor in the line of the duties herein imposed may be allowed by the House of Delegates on a properly itemized statement, but this shall not be considered to include his expense in attending the annual session of the Association. Each Councilor may appoint a Vice-Councilor to assist him in the performance of his duties in his district.

Sec. 3. The Council shall be the board of censors of the Association. It shall consider all questions involving the right and standing of members, whether in relation to the members, to the component societies, or to this Association. All questions of an ethical nature brought before the House of Delegates or the general meeting shall be referred to the Council without discussion. It shall hear and decide all questions of discipline affecting the conduct of members of a component society, on which an appeal is taken from the decision of an individual Councilor, or to which attention has been called by the Councilor or interested members. It shall hear and decide all questions affecting unethical conduct on the part of any member of any annual session, and its decision in all such matters shall be final when ratified by the Association.

Sec. 4. In sparsely settled sections it shall have authority to organize the physicians of two or more counties into societies, to be suitably designated so as to distinguish them from district societies, and the societies, when organized and chartered, shall be entitled to all rights and privileges provided for component societies until such counties shall be organized separately.

Sec. 5. The Council shall provide for and superintend the publication and distribution of all proceedings, transactions and memoirs of the Association, and shall have authority to appoint such assistants to the editor as it deems necessary. It shall manage and conduct the JOURNAL OF THE MEDICAL ASSOCIATION OF GEORGIA, which is the organ of the Association, and all money paid into the treasury as dues shall be received as subscriptions to the JOURNAL.

All money received by the Council and its agents, resulting from the discharge of the duties assigned to them, must be paid to the Secretary-Treasurer of the Association. As the Finance Committee it shall annually audit the accounts of the Secretary-Treasurer and other agents of this Association, and present a statement of the same in its annual report to the House of Delegates, which report shall also specify the character and cost of all the publications of the Association during the year, and the amount of all other property belonging to the Association under its control, with such suggestions as it may deem necessary. In the event of a vacancy in the office of the Secretary-Treasurer, the Council shall fill the vacancy until the next annual election.

Sec. 6. All reports on scientific subjects and all scientific discussions and papers heard before the Association, shall be referred to the JOURNAL OF THE MEDICAL

ASSOCIATION OF GEORGIA for publication. The editor, with the consent of the Councilor for the district in which he resides, may curtail or abstract papers or discussions, and the Council may return any paper to its author which it may consider not suitable for publication.

Sec. 7. All commercial exhibits during the annual sessions shall be within the control and direction of the Council.

Sec. 8. In the absence of a Councilor and Vice-Councilor the President is empowered to appoint a representative from the district as acting Councilor, who shall have full rights and powers of a Councilor.

Sec. 9. Each Councilor shall render at every session a written report of each county in his district.

Sec. 10. Any member of the Council who fails to attend two regular successive sessions of the Council, or whose district does not show evidence of the performance of his duties during the year, unless he renders an acceptable excuse to the Council, is subject to have his position declared vacant by the President and a successor appointed by the President.

#### CHAPTER VI.—COMMITTEES

Section 1. The standing committees shall be as follows:

A Committee on Scientific Work.

A Committee on Public Policy and Legislation.

A Committee on Arrangements.

A Committee on Medical Defense, and such other committees as may be necessary.

Sec. 2. The Committee on Scientific Work shall consist of four members, one of whom shall be the Secretary-Treasurer. The other three members shall be appointed for terms of one, two, and three years, respectively. The vacancy which will occur each year by the expiration of the term of one member shall be filled by the President with an appointment of three years. The member who has the shortest time to serve shall be chairman. The committee shall determine the character and scope of the scientific proceedings of the Association for each session. Thirty days previous to each annual session it shall prepare and issue a program announcing the order in which papers, discussions and other business shall be presented.

This By-Law shall not prohibit the Committee on Scientific Work from inviting not more than two distinguished members of the national organization to deliver addresses or read papers at any annual meeting.

Sec. 3. The Committee on Public Policy and Legislation shall consist of three members and the President and Secretary, the Commissioner of Health of the State of Georgia, and a sub-committee of three members from each Councilor District appointed by the chairman when needed. It shall represent the Association in securing and enforcing legislation in the interests of public health and of scientific medicine. It shall keep in touch with professional and public opinion, shall endeavor to shape legislation so as to secure the best results for the whole people, and shall strive to organize professional influence so as to promote the general good of the community in local and national affairs and elections.

Sec. 4. The Committee on Arrangements shall be appointed by the component society in which the annual



session is to be held. It shall provide suitable accommodations for the meeting places of the Association and of the House of Delegates and their respective committees, and shall have general charge of all arrangements. Its chairman shall report an outline of the arrangements to the Secretary-Treasurer for publication in the program, and shall make additional announcements during the session as occasion may require.

Sec. 5. The Committee on Medical Defense shall consist of five members, of whom the Chairman of the Council and the Secretary-Treasurer of the Association shall be members. The other members, one of whom shall act as chairman of the committee, shall be elected by the Council for a period of five years. Those elected at this meeting (April 19, 1916), shall serve one, three and five years, respectively.

It shall be the duty of the Committee on Medical Defense to investigate and defend all damage suits against the Medical Association of Georgia; to investigate all claims of civil malpractice made against its members, to take full charge of such cases, which after investigation, they decide to be proper cases for defense; to defend all such cases in the courts of last resort, to furnish General Counsel and pay court cost usual to such litigation, and reasonable fees for local attorneys as shall be arranged by General Counsel. Provided that any member who has indemnity insurance shall have such insurance bear its portion of the expense. However, they shall not pay, or obligate the Medical Association of Georgia to pay any judgment rendered against any member upon the final determination of any case. They shall be empowered to contract with such agents or attorneys as they may deem necessary for the proper carrying out of this By-Law.

The assistance for defense, as herein provided, shall be available only to members of the Medical Association of Georgia in good standing. Any member who has not paid his annual dues by April 1st shall not be considered in good standing in the application of this By-Law.

Any member or members of the Association threatened with suit for civil malpractice shall immediately communicate with the Secretary of the Association and shall give full and complete information in reference to all the circumstances alleged in the complaint. The Secretary shall proceed immediately to investigate the circumstances reported and shall advise with the attorneys or agents employed by the committee for this purpose. The members sued, or threatened with suit, shall be consulted and shall have the complete confidence of the committee in all transactions connected with the investigation in question. The committee shall have the authority to require of a constituent society or the president thereof, the appointment of a committee of investigation in any such case, and it may direct the committee so appointed to report to the Committee on Medical Defense and not to the society from which it was appointed.

The Committee on Medical Defense may also, at its discretion, arrange to prosecute illegal practitioners in the State of Georgia and assist in the enforcement of the Medical Practice Act of this State.

#### CHAPTER VII.—COUNTY SOCIETIES

Section 1. All county societies now in affiliation with

this Association, or those which may hereafter be organized in the State, which have adopted principles of organization not in conflict with this Constitution and By-Laws, shall, on application, receive a charter from and become a component part of this Association.

Sec. 2. As rapidly as can be done after the adoption of this Constitution and By-Laws, a medical society shall be organized in every county in the State in which no component society exists, and charter shall be issued thereto.

Sec. 3. Charters shall be issued only on approval of the Council, and shall be signed by the President and Secretary of this Association. The Association shall have authority to revoke the charter of any component society whose actions are in conflict with the letter or spirit of this Constitution and By-Laws.

Sec. 4. Only one component medical society shall be chartered in any county.

Sec. 5. Each county society shall judge of the qualifications of its own members, but as such societies are the only portals to this Association, every legally registered white physician who does not practice or claim to practice, nor lend his support to any exclusive system of medicine, shall be eligible to membership. Physicians who have been legally registered in other states or who have been licensed by the National Board of Medical Examiners, or who are employed as teachers in the medical schools, or are in the service of the State, a county, a municipality, or the United States Government other than the regular medical corps of the United States Army, the United States Navy and the United States Public Health Service, may be accepted for membership in county medical societies, for membership in this Association, provided they meet the requirements of regular membership. Before a charter is issued to any county medical society, full and ample notice and opportunity shall be given to every such physician in the county to become a member.

Sec. 6. No matter what the unethical conduct or discipline of the members of the county society may be, both plaintiff and defendant shall have the right to appeal to the Council, whose decision shall be final when ratified by the Association.

Sec. 7. In hearing appeals the Council may admit oral or written evidence, as in its judgment will best and most fairly present the facts, but in case of every appeal, both as a board and as individual Councilors in district and county work, efforts at conciliation and compromise shall precede all such hearings.

Sec. 8. When a member in good standing in a component county society moves to another county in this State, he shall be given a written certificate of these facts by the secretary of his society, without cost, for transmission to the secretary of the society in the county to which he moves. Pending his acceptance or rejection by the society in the county to which he moves, such members shall be considered to be in good standing in the county society from which he was certified and in the Medical Association of Georgia to the end of the period for which his dues have been paid.

Sec. 9. A physician living on or near a county line may hold his membership in that county most convenient for him to attend, on permission of the component society in whose jurisdiction he resides.



Sec. 10. Each component society shall have general direction of the affairs of the profession in its county, and its influence shall be constantly exerted for bettering the scientific, moral and material condition of every physician in the county; and systematic efforts shall be made by each member and by the society as a whole, to increase the membership until it embraces every qualified physician in the county.

Sec. 11. At some meeting in advance of the annual session of this Association each county society shall elect a delegate or delegates to represent it in the House of Delegates of this Association, in the proportion of one delegate to each fifty members, or fraction thereof, and the Secretary of the society shall send a list of such delegates to the Secretary of this Association at least ten days before the annual session.

Sec. 12. The Secretary of each component society shall keep a roster of its members, and of the non-affiliated registered physicians of the county, in which shall be shown the full name, address, college and date of graduation, date of license to practice in this State, and such other information as may be deemed necessary. In keeping such roster the Secretary shall note any changes in the personnel of the profession by death, or by removal to or from the county, and in making his annual report he shall be certain to account for every physician who has lived in the county during the year.

Sec. 13. The Secretary of each component society shall forward its assessment, together with its roster of officers and members, list of delegates, and lists of non-affiliated physicians of the county, to the Secretary of this Association each year, thirty days before the annual session.

Sec. 14. Any county society which fails to pay its assessment, or make the report required on or before April 1 of each year, shall be held as suspended, and none of its members or delegates shall be permitted to participate in any of the business or proceedings of the Association, or of the House of Delegates, until such requirement has been met.

Sec. 15. The Secretary of each county society shall report to the JOURNAL OF THE MEDICAL ASSOCIATION OF GEORGIA full minutes of each meeting and forward to it all scientific papers and discussions which the society shall consider worthy of publication.

#### CHAPTER VIII.—RULES AND ETHICS

Section 1. The deliberation of this Association shall be governed by parliamentary usage as contained in Robert's Rules of Order, when not in conflict with this Constitution and By-Laws.

Sec. 2. All papers read before the Association shall become its property. Each paper shall be deposited with the Secretary when read, and if this is not done it shall not be published.

Sec. 3. The principles of medical ethics of the American Medical Association shall be those of this Association.

Sec. 4. Any member of this Association, on locating in a new place for practicing his profession, may place his professional card, containing name, address, telephone number, and statement as to whether or not his practice will be limited to any particular class of diseases, in the local paper for a period of not longer than

one month. The placing of such card for this period of time shall not be considered unethical. The use of the word "specialist" by any member in connection with his name in any newspaper, telephone directory, or other public places, shall be considered unethical.

#### CHAPTER IX.—AMENDMENTS

These By-Laws may be amended at any annual session by a majority vote of the Association after the amendment has lain on the table for one day.

#### RESOLUTIONS,

#### MEDICAL ASSOCIATION OF GEORGIA

1921

Resolved, That a member who sends in a title of a paper to be placed on the program and is not present to read the paper, shall pay the penalty of not having an opportunity to appear on the program for two years, unless he presents an excuse acceptable to the Committee on Scientific Work.

1922

Be it Resolved, That the House of Delegates recommend that the Committee on Scientific Work make available on the program of the State Association space for two papers from each Council district; that a definite time be assigned for reading and discussion of each of these papers, and they be given precedence over all other business. The said papers are to be selected by the Committee on Scientific Work, and, in case a writer does not respond when his name is called, some paper will be substituted and the schedule not deranged. The President ruled that this resolution is only a recommendation and not a law.

1928

Resolved, That the delegates to the A. M. A. elected at this and succeeding meetings of the Medical Association of Georgia be installed January 1st, following their election, and that their term of service run for two years thereafter. And be it further

Resolved, That our delegates be authorized to attend the regular and any called meeting of the House of Delegates of the American Medical Association during the term to which they are elected.

1929

Resolved, That in order to expedite the business of the House of Delegates, all reports of special and regular committees of the Association involving matters of public policy, legislation or appropriation of the funds of the Association be submitted in writing to the Secretary of the Association a sufficient time in advance of the regular annual session, about March 15th, to permit the publication of said recommendations either in the official program prior to the session or in a special circular that shall be mailed to the constituent societies, in order that the delegates may be advised of the proposed changes.

1946

Resolved, That the House of Delegates set the amount of dues at \$7.00 per capita for the year 1947.

The Medical Association of Georgia will hold its Ninety-Seventh Annual Session at the Bon Air Hotel, Augusta, April 22-25, 1947. Hotel reservations should be made in advance of the meeting dates.

## Woman's Auxiliary to the Medical Association of Georgia



MRS. BRUCE SCHAEFER  
Toccoa  
President, 1946-1947

### INVITATIONS

To the Members of the Woman's Auxiliary:

The Woman's Auxiliary to the Richmond County Medical Society extends a most cordial invitation to our state-wide membership to join us in Augusta, the Garden City, at the annual convention, April 22-24.

We will be very happy for doctors' wives, who are not members, to take part in all of our activities during the convention.

An instructive, as well as entertaining, program has been planned. Your presence is needed to help make this meeting a complete success.

We are looking forward to seeing you in Augusta.

Sincerely yours,  
MRS. PERRY P. VOLPITTO, *President*,  
Woman's Auxiliary to the  
Richmond County Medical Society.

Dear Auxiliary Members:

The Twenty-Second Annual Convention of the Woman's Auxiliary to the Medical Association of Georgia will meet in Augusta April 22-24. May I extend a cordial invitation to every Auxiliary

member and to every doctor's wife in Georgia to attend this convention?

A warm welcome awaits us in Augusta and I am sure everything will be done to make our visit a pleasant one by our hostesses, the Auxiliary to the Richmond County Medical Society.

Looking forward to seeing each of you, and anticipating a most successful meeting, I am

Sincerely yours,  
MRS. BRUCE SCHAEFER, *President*,  
Woman's Auxiliary to the  
Medical Association of Georgia.

### TWENTY-SECOND ANNUAL CONVENTION of the WOMAN'S AUXILIARY to the

MEDICAL ASSOCIATION OF GEORGIA  
SHERATON BON AIR HOTEL, AUGUSTA

April 22, 23, 24, 1947

#### OFFICERS AND CHAIRMEN

##### *Executive Board*

President—Mrs. Bruce Schaefer, Toccoa.  
President-Elect—Mrs. W. G. Elliott, Cuthbert.  
First Vice-President—Mrs. J. P. Holmes, Macon.  
Second Vice-President—Mrs. Shelley C. Davis, Atlanta.  
Third Vice-President—Mrs. Sam Anderson, Milledgeville.  
Recording Secretary—Mrs. Ralph Fowler, Marietta.  
Corresponding Secretary—Mrs. C. L. Ayers, Toccoa.  
Treasurer—Mrs. R. C. McGahee, Augusta.  
Historian—Mrs. Charles Usher, Savannah.  
Parliamentarian—Mrs. Ralph Chaney, Augusta.

#### CHAIRMEN OF STANDING COMMITTEES

Jane Todd Crawford Memorial—Mrs. B. E. Collins, Waycross.  
Archives—Mrs. Eustace A. Allen, Atlanta.  
Revisions—Mrs. Lee Howard, Savannah.  
Exhibit and Scrapbook Awards—Mrs. W. D. Hall, Calhoun.  
Mrs. James N. Brawner Trophy—Mrs. W. T. Randolph, Winder.  
Bulletin—Mrs. D. H. Garrison, Clarkesville.  
Achievement Award—Mrs. L. W. Williams, Savannah.  
Public Relations—Mrs. F. Kells Boland, Atlanta.  
Visual Education—Mrs. R. L. Neville, Savannah.  
Legislation—Mrs. John Elliott, Savannah.  
Press and Publicity—Mrs. Jeff Richardson, Atlanta.  
Doctors' Day—Mrs. Charles Cooper, Macon.  
Research in the Romance of Medicine—Mrs. J. L. Gallemore, Perry.  
Chairman of Student Loan Fund—Mrs. J. Lon King, Macon.

#### DISTRICT MANAGERS

First District—Mrs. W. E. Simmons, Metter.  
Second District—Mrs. C. S. Pittman, Jr., Tifton.  
Third District—Mrs. Albert Bush, Hawkinsville.  
Fifth District—Mrs. B. L. Shackelford, Atlanta.  
Sixth District—Mrs. Sam Anderson, Milledgeville.  
Seventh District—Mrs. W. C. Mitchell, Smyrna.  
Eighth District—Mrs. T. V. Willis, Brunswick.  
Ninth District—Mrs. D. H. Garrison, Clarkesville.  
Tenth District—Mrs. G. L. Loden, Colbert.

#### COUNTY PRESIDENTS

Baldwin County—Mrs. E. W. Allen, Milledgeville.  
Barrow County—Mrs. W. T. Randolph, Winder.  
Bibb County—Mrs. J. D. Applewhite, Macon.  
Bullock-Candler-Evans—Mrs. W. E. Floyd, Statesboro.  
Burke-Jenkins-Screven—Mrs. Cleveland Thompson, Millen.  
Carroll County—Mrs. Davis Reese, Carrollton.



Chatham County—Mrs. H. M. Kandel, Savannah.  
 Cherokee-Pickens—Mrs. G. N. Coker, Canton.  
 Cobb County—Mrs. W. H. Perkinson, Marietta.  
 Floyd County—Mrs. Raiden Dellinger, Rome.  
 Fulton County—Mrs. Hal Davison, Atlanta.  
 Gordon County—Mrs. J. E. Billings, Calhoun.  
 Glynn County—Mrs. W. C. Thomas, Brunswick.  
 Gwinnett County—Mrs. W. W. Puett, Norcross.  
 Habersham County—Mrs. J. B. Jackson, Clarksville.  
 Houston-Peach—Mrs. L. S. Goodman, Warner Robins.  
 Macon County—Mrs. S. C. Liggin, Montezuma.  
 Muscogee County—Mrs. J. M. McDuffie, Columbus.  
 Ocmulgee Auxiliary—Mrs. Albert Bush, Hawkinsville.  
 Randolph-Terrell-Stewart-Quitman—Mrs. R. B. Martin III, Cuthbert.

Richmond County—Mrs. Perry P. Volpito, Augusta.  
 Sumter County—Mrs. Henry R. Fenn, Americus.  
 Tift County—Mrs. E. L. Evans, Tifton.  
 Ware County—Mrs. A. W. DeLoach, Waycross.  
 Washington County—Mrs. J. B. Dillard, Davisboro.

#### PAST PRESIDENTS AND CONVENTIONS

Honorary President for Life—Mrs. James N. Brawner, Atlanta.

1924—Augusta—(Organization)—Mrs. C. W. Roberts, Atlanta, Temporary Chairman.

1925—Atlanta—Mrs. James N. Brawner, Atlanta.

1926—Albany—Mrs. William H. Myers, Savannah.

1927—Athens—Mrs. C. W. Roberts, Atlanta.

1928—Savannah—Mrs. Paul Holliday, Athens, (Mrs. J. C. Moore, Gaffney, S. C.).

1929—Macon—Mrs. Charles C. Hinton, Macon.

1930—Augusta—Mrs. Marion T. Benson, Atlanta.

1931—Macon—Mrs. Charles C. Harrold, Macon.

1932—Savannah—Mrs. Ralston Lattimore, Savannah.

1933—Macon—Mrs. S. T. R. Revell, Louisville.

1934—Augusta—\*Mrs. J. Bonar White, Atlanta.

1935—Atlanta—Mrs. J. E. Penland, Waycross.

1936—Savannah—Mrs. Ernest R. Harris, Winder.

1937—Macon—Mrs. William R. Dancy, Savannah.

1938—Augusta—Mrs. Ralph Chaney, Augusta.

1939—Atlanta—Mrs. Warren A. Coleman, Eastman.

1940—Savannah—Mrs. Eustace A. Allen, Atlanta.

1941—Macon—Mrs. H. G. Banister, Ma.

1942—Augusta—Mrs. Lee Howard, Savannah.

1943—Atlanta—Mrs. J. Lon King, Macon.

1944—Savannah—Mrs. Olin S. Cofer, Atlanta.

1946—Macon—Mrs. W. T. Randolph, Winder.

#### \*Deceased

#### RICHMOND COUNTY MEDICAL SOCIETY WOMAN'S AUXILIARY

##### CONVENTION COMMITTEES

Mrs. PERRY P. VOLPITO, *President*

Mrs. ROBERT C. MAJOR, *General Chairman*

Mrs. W. A. RISTEEN, *Co-Chairman*

##### Pages

Mrs. G. Frank Jones,

*Chairman*

Mrs. Steve Brown

Mrs. J. L. Chandler

##### *Exhibits and Scrapbook*

Mrs. Everett S. Sanderson, *Chairman*

##### *Credentials and Registration*

Mrs. Lucius N. Todd,

*Chairman*

Mrs. M. Preston Agee

Mrs. J. P. Hitchcock

Mrs. E. C. Hopkins

Mrs. Hugh Mabry

Mrs. Harry Pinson

Mrs. James Winslow, Jr.

Mrs. Leonard Massengale

##### *Decorations*

Mrs. J. W. Thurmond,

*General Chairman*

Mrs. John Brittingham,

*Chairman, Banquet*

*Decorations*

Mrs. F. A. Kennedy,

*Co-Chairman*

Mrs. Jack Bell

Mrs. W. J. Cranston

Mrs. Monroe Templeton

Mrs. Richard Torpin

Mrs. Victor Roule,

*Chairman, Luncheon*

*Decorations*

Mrs. V. P. Sydenstricker,

*Co-Chairman*

Mrs. John Bowen

Mrs. F. N. Harrison

Mrs. L. P. Holmes

Mrs. A. G. LeRoy

Mrs. Henry Schmidt

##### *Luncheon*

Mrs. R. A. Woodbury,

*Chairman*

##### *Transportation*

Mrs. G. Lombard Kelly,

*Chairman*

##### *Timekeepers*

Mrs. Robert Greenblatt

##### *Publicity*

Mrs. James S. New,

*Chairman*

##### *Arrangements*

Mrs. Perry P. Volpito,

*Chairman*

Mrs. Lane Allen

Mrs. Ralph Chaney

Mrs. F. N. Harrison

Mrs. R. C. Major

Mrs. Leonard Massengale

Mrs. Edgar Pund

Mrs. John S. Sherman

Mrs. George A. Traylor

Mrs. Byron Beard

Mrs. Nathan DeVaughn

Mrs. Lane Allen

Mrs. Robert Greenblatt

Mrs. Claude Tessier

Mrs. A. Miller

Mrs. R. C. McGahee

Mrs. A. Miller

Mrs. John Persall

Mrs. W. A. Risteen

Mrs. W. J. Williams

Mrs. W. A. Wilkes

##### *Memorial Service*

Mrs. Eugene Matthews

##### *Entertainment*

Mrs. W. A. Wilkes,

*Chairman*

Mrs. Claude Burpee

Mrs. John Persall

##### *Hospitality*

Mrs. Eugene Matthews,

*Chairman*

Mrs. Harry T. Harper,

*Co-Chairman*

Mrs. Joseph Akerman

Mrs. W. W. Battey, Sr.

Mrs. John Bowen

Mrs. Claude Burpee

Mrs. J. H. Butler

Mrs. W. J. Cranston

Mrs. Abe Davis

Mrs. T. Fulghum

Mrs. J. P. Harrell

Mrs. F. N. Harrison

Mrs. Leonard Massengale

Mrs. John McAfee

Mrs. Howard McGinty

Mrs. K. W. Milligan

Mrs. Eugene Murphey

Mrs. R. L. Rhodes

Mrs. Henry Schmidt

Mrs. D. M. Silver

Mrs. Peter B. Wright

#### HEADQUARTERS, SHERATON BON AIR

##### *Registration*

Tuesday, April 22, 4:00 to 6:00 P. M.

Wednesday, April 23, 9:00 to 12:30 P. M.—2:00 to 3:00 P. M.

Thursday, April 24, 9:00 to 12:00 Noon.

##### PROGRAM AND ENTERTAINMENT

Tuesday, April 22, 4:30 to 5:30 P. M.—Executive Board Meeting.

Tuesday, April 22, Evening—Open House, Dr. and Mrs. Ralph H. Chaney.

Wednesday, April 23, 10:00 to 12:30 P. M.—General Meeting.

Wednesday, April 23, 1:00 P. M.—Luncheon, Bon Air Hotel.

Wednesday, April 23, 3:00 P. M.—Tour of Oliver General Hospital followed by Tea at the home of Mrs. Robt. C. Major.

Wednesday, April 23, 8:00 P. M.—Public Meeting, Medical Association of Georgia.

Thursday, April 24, 10:00 to 12:30 P. M.—General Meeting.

Thursday, April 24 (Time to be announced)—Post-Convention Board Meeting.

Thursday, April 24, 7:30 P. M.—Joint Banquet. All members of the Medical Association and their wives are invited.

#### GENERAL MEETING

##### SHERATON BON AIR HOTEL

Wednesday, April 23, 10:00 A. M.

##### PROGRAM

Call to Order by the President, Mrs. Bruce Schaefer, Toccoa

##### *Invocation*

Rev. Massey Mott Heltzel, Augusta, Pastor,  
Reid Memorial Presbyterian Church



*Address of Welcome*

Mrs. Perry P. Volpito, Augusta, President,  
Richmond County Medical Society Auxiliary

*Response to Address of Welcome*

Mrs. Shelley C. Davis, Atlanta

*Introduction of Officers and Honor Guests*

Mrs. James N. Brawner, Atlanta

*Report of Advisory Committee to the Woman's Auxiliary*

Dr. Eustace A. Allen, Atlanta, Chairman

*Address*

Dr. Ralph H. Chaney, Augusta, President,  
Medical Association of Georgia

*Address*

Mrs. Wiley R. Buffington, New Orleans, La., President,  
Woman's Auxiliary to the Southern Medical Association

*Rules Governing Convention Procedure*

Mrs. Ralph H. Chaney, Augusta, Parliamentarian

*Introduction of Pages*

Mrs. G. Frank Jones, Augusta, Chairman

*Report of Executive Committee*

Chairman elected at Pre-Convention Executive Board  
Meeting

*Report of Entertainment Committee*

Mrs. W. A. Wilkes, Augusta, Chairman

*Reports of District Managers**Reports of County Presidents**Report of Registration Committee*

Mrs. Lucius N. Todd, Augusta, Chairman

*Business**Reading of Minutes**Adjournment*

## GENERAL MEETING

## SHERATON BON AIR HOTEL

Thursday, April 24, 10:00 A. M.

## PROGRAM

Call to Order by the President, Mrs. Bruce Schaefer,  
Toccoa

*Invocation*

Rev. Allen B. Clarkston, Augusta, Pastor,  
Good Shepherd Episcopal Church

*Address*

Dr. Steve P. Kenyon, Dawson, President-Elect,  
Medical Association of Georgia

*Address*

Mrs. Jesse D. Ilamer, Phoenix, Ariz., President,  
Woman's Auxiliary to the American Medical Association

*Memorial Service*

Mrs. Eugene Matthews, Augusta, Chairman

*Report of Meeting of the Auxiliary to the American  
Medical Association*

Mrs. Olin Cofer, Atlanta, Delegate

*Report of Meeting of the Auxiliary to the Southern  
Medical Association*

Mrs. W. A. Selman, Atlanta, Delegate

*Reports of Officers**Report of Auditing Committee**Report of Resolutions Committee**Report of Registration Committee**Report of Awards Committee*

Mrs. W. D. Hall, Calhoun

Mrs. W. T. Randolph, Winder

Mrs. L. W. Williams, Savannah

*Report of Courtesy Committee**Business**Report of Nominating Committee**Election of Officers**Presentation of President's Pin to the Retiring President*

Mrs. Joseph Yampolsky, Atlanta

*Announcement by the President*

Mrs. W. G. Elliott, Cuthbert

*Adjournment*

## RULES TO GOVERN THE CONVENTION

1. To gain recognition, a delegate is requested to rise, address the chair, give her name and the name of her auxiliary.
2. No delegate shall speak more than twice on the same

subject, and is limited to two minutes each time.

3. Reports shall not be read from auxiliaries which are not represented by delegates but shall be filed with the secretary.
4. All original motions or resolutions shall be made by submitting two copies: one to the Resolutions Committee and one to the Recording Secretary.
5. Reports of delegates and district managers are limited to two minutes.
6. No one is entitled to vote before she is registered.

Whispering conversations greatly retard the business of a meeting. Please be prompt. Meetings will begin promptly at the time announced. Reports must conform to the time allotted.

## COUNTIES REPORTING FOR 1947

*Brooks County Medical Society*

President—A. B. Jones, Jr., Quitman  
Vice-President—L. A. Smith, Quitman  
Secretary-Treasurer—Harry A. Wasden, Quitman  
Delegate—L. A. Smith, Quitman  
Alternate Delegate—A. B. Jones, Jr., Quitman

*Burke County Medical Society*

President—W. C. McCarver, Vidette  
Vice-President—W. R. Lowe, Midville  
Secretary-Treasurer—C. G. Green, Waynesboro  
Delegate—D. L. Butterfield, Waynesboro  
Alternate Delegate—C. G. Green, Waynesboro

*Clarke County Medical Society*

President—Sam M. Talmadge, Athens  
Vice-President—D. N. Thompson, Elberton  
Secretary-Treasurer—John L. Barner, Athens  
Delegate—Sam M. Talmadge, Athens  
Alternate Delegate—Harry E. Talmadge, Athens  
Board of Censors: L. S. Patton and H. B. Harris

*Cobb County Medical Society*

President—L. G. Garrett, Jr., Austell  
Vice-President—Walter G. Crawley, Marietta  
Secretary-Treasurer—Alfred Colquitt, Jr., Marietta  
Delegate—M. M. Hagood, Marietta  
Alternate Delegate—W. C. Mitchell, Smyrna  
Board of Censors: A. H. Fowler, N. M. McCall, Jr.,  
and G. F. Hagood

*Coweta County Medical Society*

President—W. H. Tanner, Newnan  
Secretary-Treasurer—M. F. Cochran, Newnan  
Delegate—M. F. Cochran, Newnan  
Alternate Delegate—C. W. Hammond

*Decatur-Seminole Counties Medical Society*

President—W. L. Wilkinson, Bainbridge  
Vice-President—Wm. E. Whittle, Iron City  
Secretary-Treasurer—M. A. Ehrlich, Bainbridge  
Delegate—R. F. Wheat, Bainbridge  
Alternate Delegate—L. W. Willis, Bainbridge

*Dooly County Medical Society*

President—V. C. Daves, Vienna  
Secretary-Treasurer—Martin L. Malloy, Vienna  
Delegate—W. A. Schimmel, Unadilla  
Alternate Delegate—E. B. Davis, Byromville

*Glynn County Medical Society*

President—H. M. Coe, Brunswick  
Vice-President—S. P. McDaniel, Brunswick  
Secretary-Treasurer—T. W. Collier, Brunswick  
Delegate—I. W. Towson, Sea Island  
Alternate Delegate—S. P. McDaniel, Brunswick  
Board of Censors: C. B. Greer, J. B. Avera and T. W. Collier

*Habersham County Medical Society*

President—D. H. Garrison, Clarkesville  
Vice-President—B. J. Roberts, Cornelia

Secretary-Treasurer—T. H. Brabson, Cornelia  
 Delegate—Geo. T. Nicholson, Cornelia  
 Alternate Delegate—J. B. Jackson, Clarkesville  
 Board of Censors: C. T. Hardman, and Bruce Swain

*Jasper County Medical Society*

President—L. Y. Pittard, Monticello (Deceased)  
 Vice-President—F. S. Belcher, Monticello  
 Secretary-Treasurer—E. M. Lancaster, Shady Dale  
 Delegate—F. S. Belcher, Monticello

*Laurens County Medical Society*

President—Fred J. Coleman, Dublin  
 Vice-President—W. H. Bedingfield, Rentz  
 Secretary-Treasurer—O. H. Cheek, Dublin  
 Delegate—C. A. Hodges, Dublin  
 Alternate Delegate—A. G. Bell, Wrightsville  
 Board of Censors: A. T. Coleman, C. A. Hodges and  
 J. J. Barton

*Newton County Medical Society*

President—W. D. Travis, Covington  
 Secretary-Treasurer—J. B. Mitchell, Jr., Porterdale  
 Delegate—J. R. Sams, Covington  
 Alternate Delegate—W. J. Huson, Covington

*Ocmulgee County Medical Society*

President—A. S. Batts, Hawkinsville  
 Vice-President—A. R. Bush, Hawkinsville  
 Secretary-Treasurer—Wm. R. Baker, Hawkinsville

*Polk County Medical Society*

President—James H. Hagan, Rockmart  
 Vice-President—Raymond F. Spanjer, Cedartown  
 Secretary-Treasurer—Grace R. Ross, Cedartown  
 Delegate—J. E. Griffith, Rockmart  
 Board of Censors: John M. McGehee, O. R. Styles,  
 and James H. Hagan

*Richmond County Medical Society*

President—C. G. Henry, Augusta  
 Vice-President—J. D. Gray, Augusta  
 Secretary-Treasurer—Charles M. Mulherin, Augusta  
 Delegate—Geo. W. Wright, Augusta  
 Delegate—R. C. McGahee, Augusta  
 Delegate—W. J. Williams, Augusta  
 Board of Censors: J. Victor Roule, Harry T. Harper,  
 Jr., and Perry P. Volpito

*Telfair County Medical Society*

President—D. B. McRae, McRae  
 Vice-President—C. J. Maloy, McRae  
 Secretary-Treasurer—Frank R. Mann, McRae  
 Delegate—S. T. Parkerson, McRae  
 Alternate Delegate—C. J. Maloy, McRae  
 Board of Censors: W. H. Born, S. T. Parkerson, and  
 C. J. Maloy

*Upson County Medical Society*

President—T. A. Sappington, Thomaston  
 Vice-President—James A. Woodall, Thomaston  
 Secretary-Treasurer—John D. Blackburn, Thomaston  
 Delegate—R. L. Carter, Thomaston  
 Alternate Delegate—J. E. Garner, Thomaston

*Whitfield County Medical Society*

President—D. Lloyd Wood, Dalton  
 Vice-President—James R. Whitley, Dalton  
 Secretary-Treasurer—H. J. Ault, Dalton  
 Delegate—Truman Whitfield, Dalton  
 Board of Censors: Trammel Starr, H. L. Erwin, and  
 G. L. Broadrick

*Wilkes County Medical Society*

President—T. C. Nash, Philomath  
 Vice-President—C. W. Wills, Washington  
 Secretary-Treasurer—R. G. Stephens, Washington  
 Delegate—H. L. Cheves, Union Point  
 Board of Censors: C. E. Wills, and H. L. Cheves

## ONE YEAR'S OPERATION OF THE EXPANDED TYPHUS CONTROL PROGRAM IN GEORGIA

(Continued from Page 125)

compared with 1945, whereas the 75 untreated counties showed a decrease of 18.9 per cent in 1916 as compared with 1945. Therefore, the reduction of typhus morbidity in the 16 counties over the untreated counties for 1946, as compared with 1945, amounts to only 0.2 per cent. It is indicative, therefore, that while control programs were conducted full-time in the 16 rural counties throughout 1946, there was no significant decrease in typhus morbidity for this group of counties.

In the third analysis, we may compare the 52 counties that received partial treatment of DDT dusting and rat eradication during 1946 with the 75 untreated counties. The partially treated counties, having a combined population of 719,946, reported a case rate for the year 1945 of 35.2, whereas the case rate for 1946 was 30.5. This gives a case rate reduction of 4.7 or 13.4 per cent in 1946. Comparing this percentage reduction with the 18.9 per cent reduction that occurred in 1946 over 1945 for the untreated counties, we note that there was an actual gain of 5.5 per cent in typhus morbidity in 1946 for the partially treated counties.

### Summary

In this paper an analysis of murine typhus fever morbidity data for the years 1945 and 1946 has been presented as a means of reviewing the accomplishments of the first year's operation of the expanded typhus control program in Georgia.

It is to be noted that the incidence of murine typhus fever in the State decreased 47.4 per cent in 1946 as compared with the previous year. The analysis indicates that this decrease is due primarily to the reduction in the number of typhus fever cases that were reported from the five largest counties of the State which, together with 16 other counties, operated full-time typhus control programs during 1946.

A reduction in the murine typhus morbidity case rates for the five largest counties amounted to 82 per cent in 1946 as compared with the 1945 incidence of the disease for these counties. Seventy-five counties did not operate full-time typhus control programs during this comparative period of time, but this group of counties also shows a decrease of 18.9 per cent in morbidity case rates as compared with the previous year. It is further interesting to note that the decrease in the case rates for the five largest counties of the State is 63.1 per cent greater than the decrease in the case rates reported for the 75 untreated counties. While it appears that control operations in the five largest counties might have been highly effective during 1946, it is too early to arrive at any conclusions on the control measures applied.

The additional 16 counties that are included



in the 21 county group analysis show no significant decrease below that which occurred in the untreated counties. Inasmuch as most of these counties are rural it is indicated that the disease might be widespread in the sparsely settled areas as well as the cities and towns. Better reporting may also be a factor due to the interest manifested in the control activities.

It is the belief that while rat eradication was conducted along with DDT dusting in the several counties, the DDT dusting operations played the major role in the control program.

Roy J. BOSTON, *Director*  
Typhus Control Service  
Division of Preventable Diseases

#### NEWS ITEMS

Dr. H. Homer Allen and Dr. T. E. McGeachy, Decatur, announce the removal of their offices from the Decatur Building and Loan Building to 520 Church Street, Decatur.

\* \* \*

Dr. J. Mason Baird, Atlanta, Assistant Professor of Clinical Ophthalmology at Emory University School of Medicine and attending ophthalmologist at Grady Hospital, was one of the guest lecturers at the post-graduate course in ophthalmology held at the George Washington University School of Medicine, Washington, D. C. February 6, Dr. Baird gave two lectures, the first on "Evaluating the Squinter for Surgery", and the second on "Surgery of Strabismus".

\* \* \*

The Georgia Chapter of the American College of Surgeons breakfast meeting will be held at the Bon Air Hotel, Augusta, Thursday morning, April 24, 8 o'clock.

\* \* \*

The Bibb County Medical Society held its meeting at Ridley Hall, Macon, February 4. Program: "Cardio-vascular Emergencies", Dr. Tom Ross, Macon. Dr. A. M. Phillips, secretary.

\* \* \*

Dr. Bruce A. Burleigh, formerly of Blue Ridge, announces the removal of his office for the practice of medicine to 515 Clay Street, Marietta.

\* \* \*

Dr. W. W. Calhoun, Arlington, announces the completion of his office building on Second Street, Arlington. The building consists of an office, consultation, operating and treatment rooms.

\* \* \*

Dr. Tully T. Blalock, Atlanta, has returned following five years in the U. S. Navy, of which several years was spent in the Pacific area. He has just completed a 14 months' refresher course at the Joseph H. Pratt Diagnostic Hospital, Boston. His practice will be limited to internal medicine, with offices in the new Doctors Building Annex, Atlanta.

\* \* \*

Dr. T. H. Chesnutt, Moultrie, recently accepted a position with the State Hospital, Milledgeville.

\* \* \*

Dr. Thomas L. Clary, Jr., Augusta, recently discharged as a captain in the Medical Corps of the U. S. Army,

announces the opening of his office in the Doctors Building, 1345 Greene Street, Augusta, for the practice of medicine.

\* \* \*

Dr. Allen M. Collinworth, Atlanta, announces the removal of his offices to 663 West Peachtree Street, N. E., Atlanta. Industrial and general surgery.

\* \* \*

Dr. J. A. Corry, Barnesville, was re-elected president of Lamar County Health Board at the annual meeting recently held. Dr. T. O. Vinson, Griffin, and his corps of workers were commended for the splendid program of health work they conducted in the county during the year and full support and cooperation for 1947 was pledged.

\* \* \*

The Crawford W. Long Memorial Hospital staff dinner meeting was held in the hospital dining room, Atlanta, February 13. The program consisted of three case reports: "Epidermoid Carcinoma of the Cervix" by Dr. Frank Eskridge, Jr., and discussed by Dr. Frank Eskridge, Sr.; "Paratyphoid Fever Producing Symptoms of Acute Appendicitis" by Dr. William Nelson; discussed by Dr. Kells Boland; and "Fracture of the Pelvis with Multiple Complications" by Dr. Harry Hill. Discussed by Dr. Charles Eberhart. Dr. H. H. Ferrell, secretary.

\* \* \*

Dr. Walter G. Crawley, Marietta, who has been associated with Dr. Ralph Fowler, announces the removal of his office to the Stocks Trading Center, Marietta, for the practice of medicine.

\* \* \*

Dr. John D. Elder, a former resident of Jefferson, recently released from military service, where he was assigned to duty at the Gorgas Hospital, Panama Canal Zone, announces the opening of his office at Winder for the practice of medicine.

\* \* \*

Dr. Albert L. Evans, Atlanta, was recently named to the American Board of Surgery. He is a fellow of the American College of Surgeons.

\* \* \*

Dr. A. P. Evans, Hawkinsville, announces the removal of offices to the new office building on Broad Street, Hawkinsville.

\* \* \*

The Fulton County Medical Society held its monthly dinner meeting at the Academy of Medicine, Atlanta, February 6. Scientific program: "Ischiopagus Agonoides Tripus", Case Report from Crawford W. Long Memorial Hospital, Dr. Paul McDonald, Dr. Wm. F. Lake and Dr. Walter W. Daniel. Clinical talk—"Comparison of Methods Used for Surgical Management of Peptic Ulcers, including resection of Vagus Nerve", Dr. Charles Holloway and Dr. D. Henry Poer. "The Clinical Significance of Hemoptysis", A Study of 1500 patients. Dr. Oster Abbott and Dr. Wm. A. Hopkins.

\* \* \*

Dr. Charles G. Jordon, Jr., Eatonton, recently opened a six-bed clinic on Jefferson Street, Eatonton, to be known as the Jordon Clinic.

\* \* \*

The Bartow County Medical Society recently elected the following 1947 officers: Dr. R. E. Buston, Kingston, president; Dr. H. B. Bradford, Cartersville, vice-president; Dr. A. L. Horton, Cartersville, secretary-treasurer; and Dr. W. E. Wofford, Cartersville, censor for a three-year term. The society is composed of nine members including Dr. R. E. Adair, honorary member.

\* \* \*

The Georgia Baptist Hospital staff dinner meeting was held in the dining room of the Nurses Home, Atlanta, February 18. Dr. A. M. Dimmock, secretary.



Dr. Ruskin King, Savannah, was recently elected president of the Chatham-Savannah Health Council at the annual meeting of that organization, held in the Armstrong Junior College Auditorium. He succeeds Dr. H. F. Sharpley, Jr. Dr. Lawrence F. Woolley, Atlanta, was guest speaker at the meeting, his subject being, "Community Responsibility for Mental Hygiene". Dr. Robert Oliver was elected president-elect. Physicians serving as members of the board of trustees are: Dr. F. Bland Tucker, Dr. G. H. Lang, Dr. Henry Levington, Dr. W. V. Long, and Dr. Anne Hopkins. Those who become members of the board automatically because of their offices are Dr. H. F. Sharpley, Jr., Dr. Ralph O. Bowden, Dr. Lawrence Lee, Dr. J. C. Metts, Dr. C. A. Henderson, and all officers of the council.

\* \* \*

Dr. Duncan B. McRae, McRae, recently released from the U. S. Navy Medical Corps after four and one-half years of service, announces the opening of his office at McRae for the practice of medicine.

\* \* \*

The Mercy Hospital, Macon, recently announced the election of new officers for its medical staff and for the institution's board of governors. Dr. Allen R. Rozar was named president emeritus; Dr. Charles K. McLaughlin, president; Dr. James L. King, president-elect; and Dr. Willard R. Golsan, secretary. Dr. Chas. N. Wasden was named chairman of the board of governors, and Dr. O. F. Keen, vice chairman. Dr. King was elected a member of the board.

\* \* \*

Dr. Dillard L. Nix, formerly of Avon Park and New Smyrna Beach, Florida, announces the opening of his office at Lakeland, for the practice of medicine.

\* \* \*

Dr. James E. Paullin, Atlanta, recently received the nation's highest civilian award. The President's Medal for Merit was presented to the Atlanta physician by Secretary of the Navy, James Forrestal, in ceremonies at the Navy department. Dr. Paullin has been honorary consultant on internal medicine to the Bureau of Medicine and Surgery since April 1943. During the war he made trips to Hawaii, Guam and the Philippines to do research on rheumatic fever and tropical diseases. A member of the procurement service of the War Manpower Commission, he assisted in recruiting physicians for the armed services during the war. He also made inspection trips to naval medical installations in the United States.

\* \* \*

The Carroll, Douglas and Haralson Counties Medical Society at a joint meeting voted unanimously to combine into one medical society, to be known as the Carroll-Douglas-Haralson Counties Medical Society; 1947 officers are: Dr. B. C. Powell, Villa Rica, president; Dr. C. H. Allen, Bremen, vice-president; Dr. Wm. P. Downey, Tallapoosa, secretary-treasurer. Monthly meetings will be held at different towns in the three counties the first Monday in each month. The first meeting was held at the Haralson Hotel, Bremen, February 3.

\* \* \*

Dr. Wm. H. Good, Dr. Charles M. Henry, and Dr. Arthur G. Singer, all of Toccoa, announce their association at Toccoa, for the practice of internal medicine and roentgenology.

\* \* \*

St. Joseph's Infirmary, Atlanta, recently installed Dr. Julian G. Riley as president of the medical staff, along with Dr. J. Harris Dew, president-elect; Dr. Hartwell Boyd, vice-president, and Dr. Charles Rieser, secretary-treasurer. Other appointments were: Dr. William Perrin Nicolson, Jr., chief of surgical division; Dr. Hartwell Boyd, chief of obstetrics and gynecology; and Dr. Maxwell Berry, director of the tumor clinic.

\* \* \*

St. Joseph's Hospital, Savannah, at the annual staff meeting elected Dr. L. M. Freedman president of the

staff, succeeding Dr. M. J. Egan. Other staff officers elected were: Dr. L. B. Dunn, vice-president; and Dr. W. B. Crawford, Jr., secretary-treasurer.

\* \* \*

The annual Alpha Omega Alpha honorary medical fraternity lecture was held at the Academy of Medicine, Atlanta, February 20. Dr. George Burch, New Orleans, was guest speaker. His subject was "The Use of Radioactive Sodium in the Study of the Circulation".

\* \* \*

Dr. G. E. Seymour, Albany physician and surgeon, announces the opening of his office in the Medical Building, 403 Broad Avenue, Albany.

\* \* \*

Dr. H. Wilder Smith, Swainsboro, upholding a family tradition that has been carried to the fourth generation, will practice medicine in Emanuel County as his forefathers have done since 1852. He will be associated with his father, Dr. D. D. Smith at the Smith Hospital, Main Street, Swainsboro.

\* \* \*

The Fulton County Medical Society and The Fifth District Medical Society sponsored postgraduate clinics at the Academy of Medicine, Atlanta, February 27 and 28. Program: Surgery, Dr. Alton Ochsner, New Orleans, La., and Dr. John Scudder, New York City; Gastroenterology, Dr. Thos. E. Machella, Philadelphia; Endocrinology, Dr. Elmer L. Sevringhaus, Nutley, N. J.; Hematology, Dr. Roy R. Kracke, Birmingham, Ala.; Pediatrics, Dr. Wolf W. Zuelzer, Detroit, Mich.; Anesthesiology, Dr. Perry P. Volpitta, Augusta, Ga.; and Psychiatry, Dr. Robert V. Seliger, Baltimore, Md.

\* \* \*

Dr. J. D. Stillwell, Waycross, was recently appointed to assist Dr. Guy G. Lunsford of the Georgia Department of Public Health, Atlanta. Dr. Stillwell has been in charge of the Regional Health Department at Waycross for six years.

\* \* \*

The Georgia Department of Public Health, Atlanta, announces the opening of the Alto Medical Center, Alto, for the treatment of syphilis. Treatment of syphilis is completed in 10 to 14 days with penicillin, and the patient's visit is confidential.

\* \* \*

The Postgraduate Surgical Assembly of the Southeastern Surgical Congress held its fifteenth annual assembly at the Brown Hotel, Louisville, Ky., March 10, 12, 1947. For information write Dr. B. T. Beasley, secretary, 701 Hurt Building, Atlanta, Ga.

\* \* \*

Dr. T. C. Davison, Atlanta, corresponding secretary and chairman of the local committee on arrangements, announces the annual meeting of the American Association for the Study of Goiter at the Biltmore Hotel, Atlanta, April 3, 4, 5, 1947. A good program has been planned. Dr. Floyd W. McRae and Dr. D. Henry Poer, both of Atlanta, are also members of the Committee on Arrangements. Dr. W. B. Mosser, Kane, Pennsylvania, is president of the Association.

\* \* \*

Dr. Wilborn E. Upchurch, Atlanta, announces his association with the Ballenger-McDonald Urologic Clinic, 804-810 Healey Building, Atlanta.

\* \* \*

The Dalton-Whitfield County Health Center, 219 Pentz Street, Dalton, was recently opened with Dr. John H. Venable, health director, and Mr. H. J. Duncan, sanitarian, in charge.

\* \* \*

Dr. C. A. Wilson, Jr., formerly of Cordele, recently released from the Medical Corps of the U. S. Army, announces the opening of his office in the Lockwood Building, Brunswick, for the general practice of medicine and surgery.

\* \* \*

The Whitfield County Medical Society, Dalton, re-

cently elected Dr. D. Lloyd Wood, president for 1947. He succeeds Dr. Fred B. Ragland. Dr. James R. Whitley was named vice-president, with Dr. H. J. Ault, re-elected as secretary-treasurer for his fifteenth term. Drs. Trammell Starr and G. L. Broadrick were elected censors, and Dr. Truman Whitfield delegate to the annual session of the Medical Association of Georgia, Augusta, April 22-25.

\* \* \*

The City-County Health Department, Albany, consolidated February 1, and should prove successful in the opinion of Dr. David M. Wolfe, Dougherty County Health Commissioner, who made the following statement, "Diseases don't recognize lines." Dr. W. D. Martin, for many years City Health Officer, will have charge of the inspections of milk, meat and food under the new scheme. Personnel of the city department coming under the county in the consolidation will be absorbed, Dr. Wolfe announced.

\* \* \*

Dr. Louis A. Valente, formerly of Brooklyn, N. Y., is associated with Dr. M. F. Mantia, Darien, for the general practice of medicine and surgery. Dr. Mantia is now completing the new 20 room clinic which will contain all the latest type of equipment, including x-ray and electrocardiograph.

\* \* \*

Dr. Robert Woodbury, professor of pharmacology, University of Georgia School of Medicine, Augusta, recently was guest speaker at the New York Academy of Medicine, New York City, where he was invited to present a report of the research that has been carried on by him and his associates in Augusta during the past twelve years. The investigation has to do with newer concepts and methods of relief of periodical distress in women. The following Augusta physicians are associated with Dr. Woodbury in his work: Dr. Richard Torpin, Dr. William Boyd, Dr. George P. Child and Dr. Raymond P. Ahlquist.

\* \* \*

The Georgia Medical Society held its annual president's dinner in the Gold Room, DeSoto Hotel, Savannah, February 25.

\* \* \*

Lederle Laboratories Division, New York City, presents for the month of March in the radio program "The Doctors Talk It Over", each Monday evening over the American Broadcasting Company (Blue Network) from 10:00 to 10:15, the following guest speakers: Dr. John Caffey, New York City; Dr. George Baehr, New York City; Dr. Nathaniel W. Faxon, Boston; Dr. J. Albert Key, St. Louis, and Dr. Don E. Francke, Ann Arbor, Mich.

\* \* \*

Dr. Thomas Bolling Gay, Atlanta, announces the association of Dr. John William Thompson with him in the practice of pediatrics, 27 Eighth Street, N. E., between the Peachtrees, Atlanta.

Haddon Hall will be the headquarters for the Annual Meeting of the Woman's Auxiliary to the American Medical Association, which will be held in Atlantic City, New Jersey, June 9-13, 1947.

Requests for reservations should be sent immediately to Dr. Robert A. Bradley, Chairman, Subcommittee on Hotels, 16 Central Pier, Atlantic City, New Jersey.

A meeting of the Georgia Eye, Ear, Nose and Throat Society will be held at the Academy of Medicine, Atlanta, April 11-12.

There will be five nationally known guest speakers:

Dr. Daniel B. Kirby, New York; Dr. Ralph I. Lloyd, Brooklyn, N. Y.; Dr. A. Gilbert Silver, New York; Dr. Francis LeJeune, New Orleans, and Dr. Julius Lempert, New York.

## GOITER SOCIETY TO MEET

The American Association for the Study of Goiter will hold its annual meeting at the Biltmore Hotel in Atlanta, April 3, 4 and 5. This is the first time this organization has met in Atlanta. The scientific sessions will begin at 9:00 A. M., Thursday, April 3, and will include speakers from the United States, Canada, England and Denmark. They will cover all of the latest phases of thyroid diseases and their treatment.

At 8 o'clock Thursday night, April 3, there will be a joint meeting of the Fulton County Medical Society and the American Association for the Study of Goiter at the Academy of Medicine, when Dr. Arnold Jackson, of Madison, Wis., will speak on "Traditions in Surgery", and Dr. John Hertz, of Copenhagen, Denmark, will speak on "Studies of Thyrotoxicosis".

All physicians in good standing with their local societies are invited to attend these meetings.

## HEALTHGRAMS

The enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition.—*Constitution of the World Health Organization.*

There is no doubt that the most important of all case-finding agencies in the fight against tuberculosis are its practicing physicians. It is almost always true that the family physician has the first opportunity not only to ascertain the presence of tuberculosis among the people, but also to give battle for the cure of the afflicted and to safeguard the other members of the family from the tubercle bacillus. For it is the family physician to whom most people go when troubled by signs of ill health.

The records in the chest diagnosis clinics prove that the physicians, if they are determined to do so, can perform a better job of suspecting and discovering active tuberculosis cases, year in and year out, than any other agency.—Report of Comm. on Tbc. N. H. Med. Soc., N.E. Jour. Med., Sept. 26, 1946.

I have never found a person who was merely a physical being. Most of us have minds and bodies and souls and you can't treat just one part.—Margaret S. Taylor, R.N., Con. on Rehab. of the Tuberculous, March 4, 1946.

Tuberculosis constitutes a humanitarian problem of great magnitude. The most recent comprehensive review, that of the United States Census Bureau in 1933, includes mortality figures for only thirty-two nations. The rates varied from 40 per 100,000 to 260. For a large part of the world's population, tuberculosis deaths are unrecognized, uncounted, or both. It is impossible, therefore, to make more than the roughest estimate of the toll which the disease exacts. It is safe to say, however, that there occur each year in the world more than three million deaths from all forms of tuberculosis and that the total



probably exceeds five million.—James A. Doull, M.D., NTA Trans., 1946.

The campaign against tuberculosis should be regarded, not as an isolated or special endeavor, but as an important part of the general public health program. Though the control of other infectious diseases, better housing facilities and general living conditions will have their influence in lowering the incidence of tuberculosis, the chief factor will remain the deliberate prevention of tuberculous infection.—G. C. Brink, M.D., Can. Jour. Pub. Health, Jan., 1946.

There is apparently no marked correlation of tuberculosis with geographical position. Areas of high prevalence occur in the tropics, the temperate, and arctic zones. The same is true of areas of low prevalence. Climate appears to play a minor role, if any, in the prevalence of tuberculosis, and it is apparent that this disease has an extremely widespread occurrence throughout the world.—Sarah E. Yelton, Pub. Health Rep., Aug. 2, 1946.

#### VETERANS' NEWS

Over \$34 billion of World War II National Service Life Insurance still is in force with Veterans Administration.

Forty-nine dependents of Mexican War Veterans still were on Veterans Administration pension rolls at the end of 1946.

Veterans Administration already has guaranteed or insured around 48,000 business loans for veterans, totaling more than \$150,000,000.

The Blinded Veterans' Association now is recognized as an authorized agency to handle member claims for Veterans Administration benefits.

Veterans Administration has allowed nearly 380,000 death claims for over \$3.5 billion dollars on National Service Life Insurance policies to date.

Veteran-patients in Veterans Administration hospitals took out an average of two books per patient from VA hospital libraries during November, 1946.

Only 85,000 of the 14,000,000 World War II veterans had exhausted their entitlement to unemployment allowances by last Dec. 1, Veterans Administration said.

A total of 5,600 veterans with certain disabilities received automotive conveyances at Government expense by the end of 1946, Veterans Administration said.

Veterans leaving the armed forces are not eligible for unemployment or self-employment allowances while they are receiving terminal leave pay, Veterans Administration said.

Veterans Administration is operating 123 hospitals now, but it eventually expects to have more than 200 in order to handle the anticipated load of veteran-patients.

Veterans who served in the armed forces during peace time are entitled to Veterans Administration hospital benefits only if they have service-connected disabilities.

A monthly average of 47,000 veterans filed applications with Veterans Administration last year to convert their National Service Life Insurance to permanent Government policies.

#### RHEUMATIC FEVER COMPLICATION

Penicillin prevents one of the most deadly forms of heart disease known as subacute bacterial endocarditis, an infection which occurs in patients who have rheumatic heart disease. Prior to the advent of penicillin this disease was practically always fatal. Almost one-half of the cases of this infection develop after a tooth extraction or an operation on the upper air passages.

The American Heart Association advocates that all persons suffering from rheumatic fever or rheumatic heart disease receive treatment of penicillin before having a tooth extracted or undergoing any other operation on the upper respiratory tract.

Bacterial endocarditis is a serious infection of the heart valves and is caused by one of the streptococcus germs commonly known as "green strep" which is always present in the mouth and air passages. When a tooth is extracted, the bacteria enter the blood stream and grow on one of the heart valves previously damaged by rheumatic fever.

If the patient receives penicillin prophylaxis prior to the extraction of a tooth, or any mouth or throat operation, the disease can be prevented. When this is not done, and the disease develops, penicillin administered in large doses and over a long period of time can cure the majority of cases.

—Georgia's Health, December 1946.

#### THE SCHOOL-CHILD'S BREAKFAST

Many a child is scolded for dullness when he should be treated for undernourishment. In hundreds of homes a "continental" breakfast of a roll and coffee is the rule. If, day after day, a child breaks the night's fast of twelve hours on this scant fare, small wonder that he is listless, nervous, or stupid at school. A happy solution to the problem is Pablum. Pablum furnishes protective factors especially needed by the school-child—especially calcium, iron and vitamin B complex. The ease with which Pablum (or Pabena) can be prepared enlists the mother's cooperation in serving a nutritious breakfast. This palatable cereal requires no further cooking and can be prepared simply by adding milk or water of any desired temperature.

*The JOURNAL would like to record the scientific work of Georgia doctors. It earnestly requests, therefore, that each physician in the State who publishes a contribution in some other medical periodical submit an abstract of the article for these columns.*

**WANTED PHYSICIANS**—There are many vacancies with the Veterans' Administration for full time, part time and fee basis physicians over the state. Any one interested, please communicate with the Manager, Veterans' Administration, 5998 Peachtree Road, Atlanta.



# THE JOURNAL OF THE MEDICAL ASSOCIATION OF GEORGIA

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## TOPICAL APPLICATION OF THROMBIN AND PLASMA IN SPLIT SKIN GRAFTS

CHARLES E. RUSHIN, M.D.

*Atlanta*

Artificial introduction of fibrin in certain wounds may help give local mechanical support to the tissues and may at the same time promote healing. In normal healing, newly-forming connective tissue and blood vessels utilize fibrin as a scaffold upon which to build and perhaps also as a source of nutriment for the proliferating cells. The artificially supplied fibrin should help to aid the healing process sufficiently in wounds in which little or no fibrin could be expected to form by exudation.

### *Methods and Materials*

Thrombin Topical was first prepared by Drs. R. T. Tidrick and E. D. Warner. It is a highly active and relatively stable product obtained from beef plasma. Several of the biologic companies now make Thrombin Topical and it is supplied in sealed glass ampuls. Each ampul contains 75 milligrams of the material having 10,000 units of thrombic activity (The thrombin unit is defined as that amount which will clot 1 cc. of standard fibrinogen solution in fifteen seconds). The fibrin powder can be used in dry form, but it is generally more convenient to dissolve the contents of one vial in sterile saline. To prepare solutions containing 1,000 units per cc. the contents of one

ampul should be dissolved in 5 cc. of sterile isotonic saline. Solutions containing 2,000 units per cc. are prepared by dissolving the contents of one ampul in 2.5 cc. of sterile isotonic saline.

These solutions should be used as soon as possible after preparation, and under ordinary circumstances unused portions should be discarded. The storage of solutions of Thrombin Topical is not recommended. Do not allow blood-stained fabrics to come in contact with the solution of Thrombin Topical. The antithrombin contained will inactivate the solutions.

Donor skin to be transplanted was first saturated with human plasma. Stored citrated plasma from the hospital blood bank was used in all of these cases. The recipient bed was flooded with thrombin solution immediately before the graft was placed. By this technic the fibrinogen in the plasma with which the graft is saturated clots almost instantly and fixation of the graft in the clot is accomplished within a few seconds. It is important that the graft not be moved after being once placed, otherwise the clot would be broken up and the fixation of the graft would be less satisfactory. In using the Thrombin Topical and plasma, it is not necessary to use many sutures to hold the graft in place. Frequently the graft is pie-crusted over the recipient bed and only two or three stay sutures are used to prevent retraction of the graft. The Padgett dermatome was used to obtain the grafts. After the graft was removed, the area from which it was taken was covered with a saline pad and later, when the graft had been trans-



Figure 1

Shows dermatome being used to cut split graft from the thigh.



Figure 2

All scar tissue has been excised down to normal tissue. Sulfathiazole powder has been applied to the area. The syringe contains Thrombin Topical, which is being sprayed on the recipient bed.

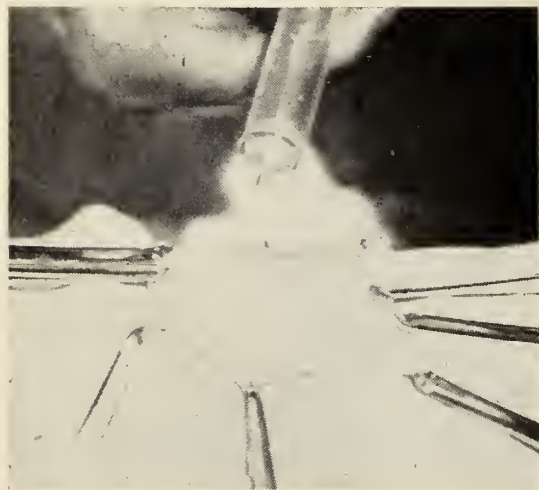


Figure 3

The split graft is being held with forceps and the raw surface of the graft is flooded with plasma before it is applied to the recipient bed.

planted, this donor area was sprayed with Thrombin Topical to stop bleeding.

Pressure with rubber sponges or sea sponges, as formerly used with split grafts, is not necessary when using Thrombin Topical and plasma. The percentage of takes was much greater with the fibrin fixation in 35 cases.

Tidrick et al reported successful use of Thrombin Topical in 78 cases of split skin graft. In the majority of cases complete hemostasis was obtained in a few minutes and, although rather bulky clots remained in a few instances, there was no significant postoperative bleeding. Of 122 separate operations performed by these workers successful takes were obtained in over 90 per cent of the cases in which clean operative wounds were immediately grafted.

Young and Favata found that by flooding the graft bed with plasma and washing the graft with thrombin solution, a much higher percentage of takes was obtained than when the suture procedure method was used.

My 35 cases were grafts of the leg on patients who had postphlebotic or varicose ulcers. Usually the ulcers are healed first, and the scar tissue is allowed to become as pliable as possible. All induration and inflammation should disappear before any attempt is made to apply a graft. However, in some of these patients it is impossible to heal the ulcer and in these cases tyrothricin solution is used to clear up the infection. As soon as the infection has disappeared the patient is operated upon under spinal anesthesia. All the ulcer area and scar tissue are removed down to healthy tissue. All large vessels are ligated and a hot saline pad is applied to the recipient bed. Then with a Padgett dermatome set at 20 or 25, the graft of sufficient size is cut from the anterior surface of the thigh. The graft is flooded with plasma and Thrombin Topical is applied to the recipient bed.

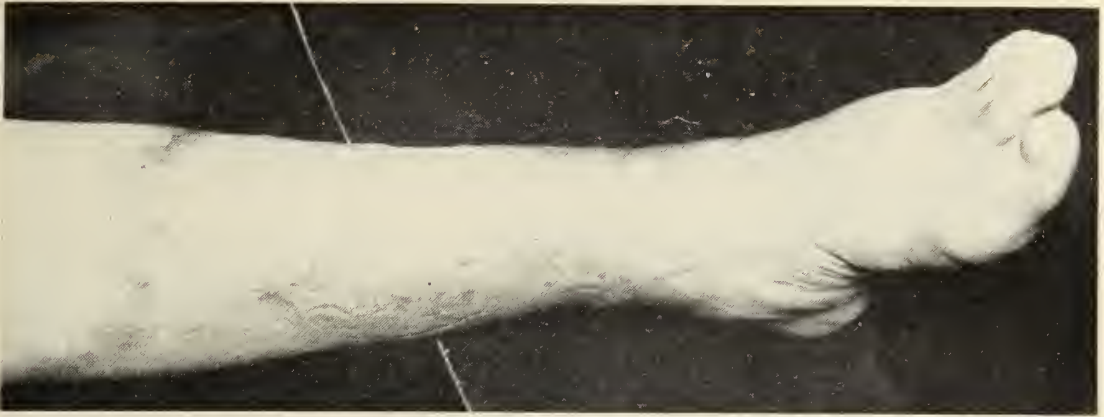


Figure 4

This patient has an ulcer of 10 years' duration. A split graft was applied one year ago.

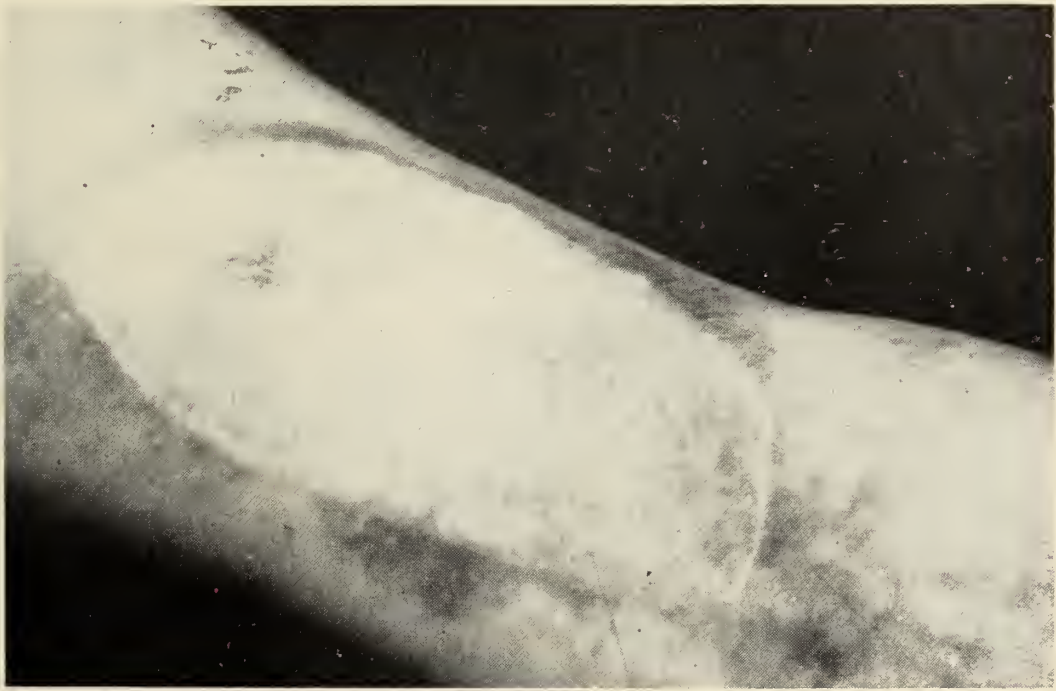


Figure 5

This graft was implanted two years ago.

Then the graft is immediately placed over the recipient bed and pressure applied smoothly over the area for a few minutes. A thin vaseline gauze dressing is applied over the graft and dry sponges placed over the vaseline gauze. An Ace bandage is then applied from the toes to the knee.

After the patient has been carried back to his bed, the foot of the bed is elevated six inches. The next day the patient is got out of bed, encouraged to move freely but does not hang the affected leg down for any length of time. On the ninth day the dress-

ings are removed. If the graft has been piecrusted on the edges, these are trimmed away and fresh dressings are applied.

Weightbearing is not permitted on the leg until after three months, although the patient is allowed to go around with crutches. Many of these patients have had postpartum or postoperative phlebitis and therefore every effort is made to prevent a recurrence of this condition.

#### *Discussion*

There has been no local irritation of the tissues resulting from the fibrin or from the





Figure 6

A chronic ulcer over the external malleolus had persisted for four years. A split graft was successful in healing the defect.

foreign protein of the thrombin, which is prepared from beef plasma. Tidrick and Warner have not had any untoward reaction attributable to these materials. There has been no suggestion of hypersensitivity to the foreign protein.

The use of the sulfonamide group of drugs did not seem to have any adverse effect on the fibrin fixation.

#### *Summary*

By the use of plasma and Thrombin Topical fibrin fixation of split grafts can be readily accomplished.

The technic of fibrin fixation is simple to carry out, and has been of invaluable aid in split grafts.

#### REFERENCES

1. Tidrick, R. T.; Seegers, W. H., and Warner, E. D.: Clinical Experience with Thrombin as an Hemostatic Agent, *Surgery* 14: 191-196, 1943.
2. Young, F., and Favata, B. V.: *Surgery* 15:378, 1944.

The most essential service rendered by tuberculosis hospitals to their respective communities is not primarily the hospitalization of patients, but rather the effective control of this disease. C. J. Stringer, M.D., Hospitals, August, 1946.

## THE PRESENT STATUS OF PILONIDAL CYSTS

MARION C. PRUITT, M.D.  
*Atlanta*

To simplify this discussion, a more definite title of this paper should be the present status of all of the following subjects:

1. Pilonidal dimple.
2. Pilonidal sinus.
3. Pilonidal cyst.
4. Pilonidal cyst with complications.

*Definitions:* A pilonidal dimple, sinus or cyst is a congenital developmental defect, ectodermal in origin, resulting from a persistence of the coccygeal vestige of the neural canal and causing varying degrees of invagination of the skin in the midline over the sacrococcygeal region. (This is the most commonly accepted theory).

Read before the Medical Association of Georgia, Macon, May 10, 1946.

A pilonidal dimple is the slightest degree of invagination of the cutaneous structures.

A pilonidal sinus is a greater developmental defect or invagination of the cutaneous structures which usually extend down to the sacrococcygeal fascia leaving a mid-line external opening.

A pilonidal cyst results from the closing over of the invaginated ectodermal structures or sinus retaining the accumulation of the secretions, excretions and desquamation of the dermal lined nidus or cavity, the pressure from the accumulation of the nidus resulting in cyst formation.

The common complications of pilonidal cysts are infection, abscess and fistulous tracts, all of which have much to do with the method of procedure in treatment.

The treatment of pilonidal cysts has caused much discussion, wide variations of opinions and advancement of many different types of procedures, especially during the recent war.

In the armed services definite directives as to procedures to be used must be followed. This caused much grief and necessitated several changes, as there is no one suitable method of treatment for all types of cases.

A pilonidal dimple, or sinus, rarely give any clinical symptoms and is best left alone as long as it remains asymptomatic.

Experience has shown that the prophylactic surgical treatment of the asymptomatic pilonidal sinus or cyst should be discouraged.

Pilonidal cyst with induration, soreness, abscess or fistula is a surgical condition.

Most surgeons agree on complete block excision of the diseased tissue, when possible, by elliptical dissection.

For discussion, the type of surgical procedures to be used may be classified as follows:

1. Excision and primary closure.

2. Excision and partial primary closure.

3. Excision with incision of subsequent tracts and packing, leaving the wound open to heal by granulation.

4. Incision of abscess or cyst and application of some sclerosing agent, or cauterization, to destroy the lining of the cyst.

5. Excision and filling in with pedicle graft flaps or sliding plastic operation.

All of the above methods are aimed at the removal or destruction of the cyst wall and at healing of the defect.

Penicillin or sulfonamides before, during and after operation, offers the best means of preventing or keeping down infection and are valuable aids to any of the above procedures.

The type of surgical procedure to be used is a controversial question, the answer to which often depends on:

1. The extent of the lesion.
2. The individual anatomic structures involved.
3. The severity of complications (infection, abscess or fistula).

*Extent of lesion.* When induration and soreness are the only symptoms, and the extent of the lesion is not too great for complete removal by elliptical incision with block dissection, or if infection is present but can be made quiescent, block excision and primary closure are usually successful, gives the shortest loss of time from the regular duties and the best weight-bearing scar, and should be tried.

#### *Block Excision and Primary Closure*

Success of primary closure depends on complete removal of all diseased tissue, preferably by an elliptical incision with block dissection, absolute hemostasis, obliteration of all dead space, approximation of wound edges without undue tension on sutures and the use of a sulfonamide or penicillin or both, before, during and after operation. If a sulfonamide is to be dusted

into the wound at the time of operation, it should be evenly spread throughout the wound, care being taken that large collections of the drug are not left in the wound to act as foreign bodies.

The posture of the patient for the first week or ten days is important. Keep the patient flat in bed with legs extended, as near as possible. The flexing of the thighs on the abdomen brings tension on the sutures, tends to pull the wound, make dead space and accumulation of serum, which may cause breaking down of the wound. Firm adhesive strapping as a postoperative pressure dressing lends protection and aids in immobility. Retention sutures should not be taken out for eight to ten days to give time for primary union of the wound. Early removal leaves the wound with little strength to prevent separation, subsequent collection of serum followed by infection and breaking down of the wound. The wound should be dressed on the fifth, eighth and tenth days. If infection occurs, the wound should be partially or completely opened without delay, depending on the extent of the area involved. Frequently, only a small part of the wound need be opened and a partial closure remains. The opened area is then treated as by the open method. Strenuous exercise should be avoided after operation for at least six to eight weeks to give time for firm fibrosis of the wound.

*Individual anatomic structures involved.* In the robust fat phlethoric person with a deep sulcus between the prominent folds of the thick buttocks, excessive growth of hair, oily skin and excessive secretion of the sweat glands (to which group a greater number belong) a much more difficult problem is encountered than in the opposite type. In this type of case complete excision of the diseased tissue, a change in the anatomic structure to decrease the depth of the wound and give better chance for drainage all are

desired. This is best obtained by one of the surgical procedures of block excision and partial primary closure.

#### *Block Excision and Partial Primary Closure*

Elliptical incision with block dissection, followed by the McAfee type of operation, probably represents the best type of partial primary closure. In this operation four to six mattress sutures are placed through the skin edges and the sacrococcygeal fascia on each side of the wound and each suture is tied over a small piece of gauze or rubber dam placed on the skin surface. This brings the skin edges to the fascia, if possible without tension, leaving a groove between the two sutured edges. In the obese patient this type of operation gives free drainage, hematomas in the wound are rare, and the depth and size of the wound are decreased greatly. If the sutures should slough, there is little if any valuable time lost, as the treatment of the wound can and should be continued by the open method. Much can be said in favor of this operation in the obese, where there is not too much deformity of the anatomic structures because of the extent of the lesion, as the size of the wound is reduced, which aids much in shortening of the time of healing, and there will be plenty of fat left to make a good weightbearing scar.

In the very obese the Diprizzo and McAfee operation or cutting out of a v-shaped fold of fat on either wall of the elliptically excised wound to decrease the depth of the wound to allow the skin and sacrococcygeal fascia to fall closer together, and in this way decrease the tension on the mattress sutures, may be indicated. This method leaves an open groove in the midline for drainage, a good weightbearing scar is to be expected, but secondary operations are too frequent and convalescence is long. Even so, in the very obese it may be the method of choice.

The two operations already described are



not suitable for thin individuals. Excision and primary suture, or leaving the wound open to heal by granulation depending on the complications involved, all are to be preferred.

A modified marsupialization operation as suggested by Buie, of incising the cyst and subsidiary tracts, cutting away the overhanging skin edges and the superficial portion of the wall of the incised cyst, then suturing the free edges of the skin to the cut margin of the cyst wall, is a method of limited value, because it is often impossible to make the cut edges fit, healing is slow and often leaves a poor weightbearing scar. Usually more debridement of diseased tissue is to be preferred.

Block excision of diseased tissue and filling in the space with pedicle flap of the gluteus maximus muscle passed through a subcutaneous tunnel sutured in place to fill in the cavity left by the removal of the cyst, as suggested by Hupsley, has the disadvantage of making two operative wounds. Infection, hemostasis and hematomas are common in both incised wounds. The operation is more extensive and results are not too encouraging. The same can be said for other "flap" or "sliding" operations.

*Complications involved.* In acute infection of the surrounding tissue, before abscess is formed, hot sitz baths, penicillin or sulfonamides should be given. When the acute infection subsides an elective operation should be performed.

When an abscess of the pilonidal cyst is present, an elliptical incision of the abscess cavity should be made. The application of some sclerosing agent or cautery to destroy the lining of the cyst and the use of penicillin or the sulfonamides to control infection, all combine to make a simple method of treatment, and offer some hope of a cure. At this stage excision of the cyst is out of the question.

A simple incision of the abscess gives temporary drainage, but failure to cure, and fistulas and recurrent abscesses are almost certain to follow. But in the acute severe extensive lesion, simple incision of the abscess as a conservative temporary procedure should be done, and then wait for a more elective time for operation, probably by the open method.

#### *Open Method or Excision and Wound Allowed to Heal By Granulation*

When the extent of the lesion is too great for block dissection and there is marked infection of the surrounding tissue, complete excision of the cyst and incision and cutting away of all diseased tissue and overhanging skin edges of all associated fistulous tracts, packing and allowing the wound to heal by granulations, is the only method that can be relied upon to give few recurrences and a permanent cure. Too much cannot be said in favor of the open method of treatment in this type of case. The dressings are often extensive and healing may be slow, but if bridging over is prevented a permanent cure is to be expected. Penicillin, sulfonamides and hot sitz baths are valuable aids in the postoperative treatment. The value of the open method of treatment is emphasized by Kleckner from a questionnaire sent to members of the American Proctologic Society reporting a recurrence of only 1.13 per cent in 4,231 cases.

#### *Summary*

There is no one method of procedure suitable for all cases.

The choice of method may be called surgical judgment.

For a permanent cure, the treatment is complete excision of the sinus or cyst and all associated fistulous tracts.

The rationale of the closed, partially closed, or open method has and probably always will be a controversial question.

When in doubt use the open method.

## THE IMPORTANCE OF EARLY DIAGNOSIS OF BLADDER TUMORS

HAROLD P. McDONALD, M.D.

ALEXANDER J. FILIP, M.D.

*Atlanta*

The purpose of this paper is to stress the importance of early diagnosis of bladder tumors. Today the weapons to combat bladder tumors are highly efficient. The improved resectoscope and electrosurgical unit enable the removal of tumor masses with precision and the thorough destruction of the bases of such masses. Improved cystoscopes and cystoscope lamps enable better inspection and examination of the bladder. New x-ray technics have been developed to aid in palliative treatment of tumors of the bladder. The use of new antiseptics, such as sulfa drugs, penicillin and streptomycin reduce danger of infection when open operation is needed.

Early diagnosis enables proper therapeutic measures to be taken at a time when actual cure is possible. The first and most common symptom of bladder tumor is hematuria. Blood in the urine is a serious symptom, a warning signal just as a red flag or red light is to the locomotive engineer. The cause of hematuria should be discovered when it first appears and not months or years later. Who is to blame for late diagnoses in bladder tumors? Is it the fault of the patient or of the profession? Most people consult a physician when they notice blood in the urine. This blood should be considered a danger signal by the physician and the patient should be impressed with the fact that he may have a bladder



Figure 1

Air cystogram showing excessive involvement of the urinary bladder by tumor. Note irregular filling defect covering entire left side of bladder.



Figure 2

Excessive carcinomatous involvement of the urinary bladder, as noted after air cystogram.

tumor. In fact, the possibility of bladder tumor should be considered until proved otherwise. A careful cystoscopic examination should be made and the source and cause of the blood determined. This should be done immediately. Unfortunately there are still those physicians who treat "blood in the urine" and wait until a second or third attack occurs to have proper cystoscopic examination made. Such professional procrastination has cost many lives and



Figure 2a

Doughnut-shaped tumor involving right side of urinary bladder, as noted after air cystogram.

much suffering in the past. To procrastinate cystoscopic diagnostic studies in the face of hematuria is to invite disaster. The public should be educated to regard blood in the urine, even though painless, as a warning signal. It is the duty of the profession to so inform and educate the laity. Every patient who has hematuria should have cystoscopic examination done without delay. The wages of procrastination is an increase in morbidity and mortality rates.

A few case reports of bladder tumors will serve to illustrate the danger of delay in diagnosis:

*Case 1.*—Several years ago a patient referred by his family physician, a relative, gave a history of painless hematuria in recurrent attacks over a period of two years. It was only the passage of clots that began to cause difficult urination that finally caused him to come to us. Cystoscopic examination showed a large papillary carcinoma extending over one-half of the bladder. Multiple transurethral resections plus deep x-ray therapy gave relief temporarily but death occurred in two years with metastatic lesions to the spine and pelvis (Fig. 1).

*Case 2.*—A lady, aged 57, had bled for more than two years before her family physician sent her in for examination. She had been taking ceanothylin which has been widely publicized as a hemostatic agent. Cystoscopy revealed almost complete filling of the bladder with papillary carcinoma, far too extensive for endoscopic treatment. Bilateral ureteral transplantation into the bowel was done and cystectomy attempted but it was found that the growth had extended beyond the bladder and this was abandoned. Needless to say the patient died a short time thereafter. (Figures 2 and 2a).

*Case 3.*—A lady 50 years old had been bleeding eight months and was referred for diagnosis only when bleeding became worse and clots had become troublesome. Cystoscopy showed an extensive malignant tumor involving the dome and upper half of the lateral walls.

The trigone and base were free from cystoscopic evidence of tumor of the bladder. Subtotal cystectomy was done and all demonstrable tumor was removed. The bladder regenerated remarkably well and three months later had a capacity of twelve ounces. Small recurrences have been noted at subsequent cystoscopic examinations and have been fulgurated endoscopically. This patient might have been cured completely had an early diagnosis been made.

*Case 4.*—A man, aged 47, came in three years ago with a history of recurrent bleeding for twelve months. His family physician told him repeatedly to come in for cystoscopic examination during this twelve months. When he did come the tumor was extensive and covered an area in the right base about the size of a lemon. The tumor was removed transurethrally and the base was thoroughly cauterized. He stayed away almost twelve months and the tumor recurred. Another endoscopic resection was done and he has since been inspected regularly every three months. Recent cystoscopic examination showed a small recurrent tumor mass near the site of the original tumor. The mass was quite small and was fulgurated in the office. It will be necessary for this man to continue to have regular inspections of his bladder in order to avoid spread of the tumor.

*Case 5.*—Four years ago a patient came in after recurrent bleeding for two years. He admitted his family doctor had advised him to come earlier but had not insisted upon his coming. After transurethral resection of the bladder tumor and prostate gland as well, regular cystoscopic examinations have revealed no recurrences in over four years (Figure 3).

Those patients who come in early have excellent chance of being cured or living their normal span of life. A few case reports to illustrate:

*Case 6.*—A man, aged 38, noticed blood only three weeks before coming for examination. A small malignant papilloma was found, was resected transurethrally, the base fulgurated and he has been free from any recurrence for over three years. Regular cystoscopic examinations have been made at intervals of three months.

*Case 7.*—Twenty-nine years ago a patient came in with hematuria of two to three months' duration. A papilloma was found in the bladder and was fulgurated by my chief, the late Dr. Edgar Ballenger. Many, many times since, possibly forty or fifty, he has been in for observation and fulguration of small recurrent masses. He was last seen by us four months ago at which time his urine was clear and cystoscopy was negative. This case illustrates results of continued zeal in regular cystoscopic examinations and fulguration of recurrent masses.

*Case 8.*—A man, bleeding for three months, had a transurethral resection of a bladder tumor with no recurrence after eight years during which time he has been watched with regular cystoscopic examination.

*Case 9.*—A physician came in three months after hematuria began. (And you wonder why he waited three months). A papillary carcinoma about the size of an acorn was resected transurethrally, thorough cauterization of the base was done and the doctor is still well today—ten years later (Figure 4).

These cases serve to illustrate the importance of early diagnosis of bladder tumors. By early diagnosis both morbidity and mortality are greatly reduced. All physicians should, therefore, insist on immediate cys-



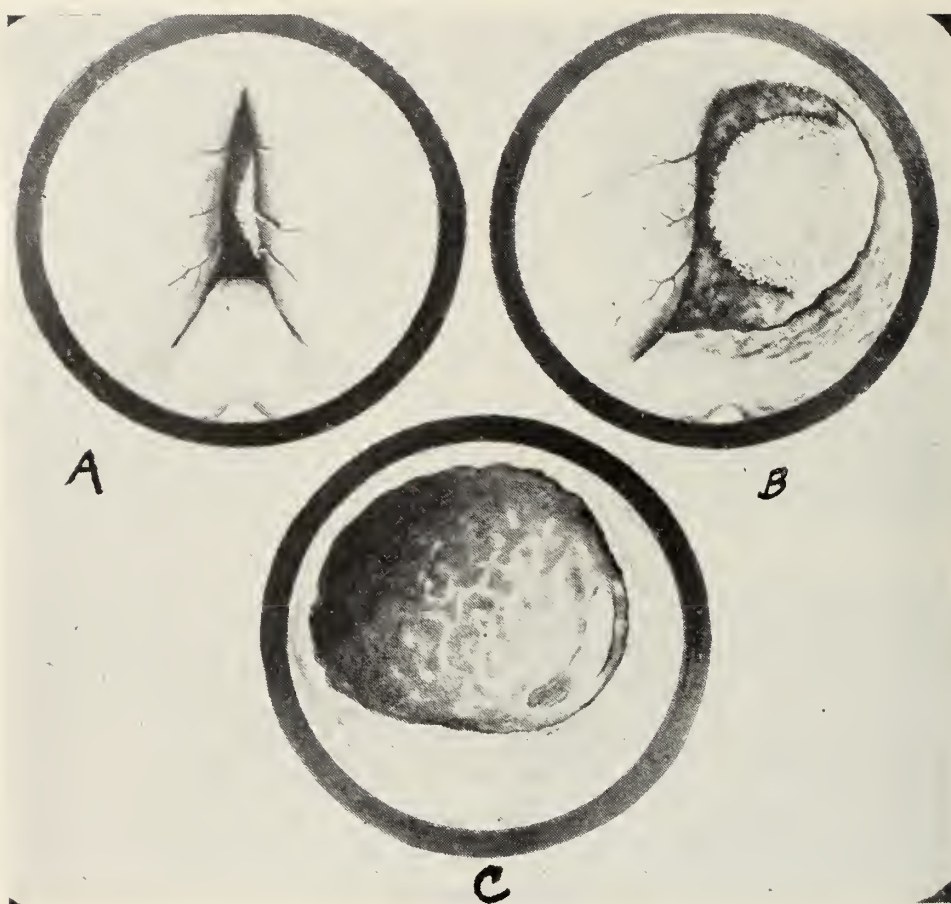


Figure 3

Drawings showing tumor in left side of urinary bladder (a), and enlarged lateral lobes and some enlargement of the middle lobe of the prostate gland. B indicates where the left lateral lobe was resected, and C portrays the result of the operative efforts after all lobes of the prostate gland and the tumor mass had been resected and the base of the tumor thoroughly cauterized.



Figure 4

Drawing showing papillary carcinoma located in the left base of the urinary bladder.

Nor does our responsibility end here. We should, by every means at our disposal, inform and educate the laity of the fact that blood in the urine may mean tumor in the bladder. By this means we can hope to see tumors of the bladder earlier and at a time when actual cure may be possible.

57 Forsyth St., N. W.

#### DEADLINE

May 1st, 1947 is the deadline for entering the \$34,000 prize art contest on the special subject of "Courage and Devotion Beyond the Call of Duty" (on the part of physicians in war and in peace). This contest is open to all M.D.'s in the Western Hemisphere. The exhibition will take place in conjunction with the A. M. A. Centennial Session at Atlantic City, June 9-13th, 1947. For complete information, write or wire now to Francis H. Redewill, M.D., Secretary, American Physicians Art Association, Flood Building, San Francisco, California, or to the sponsor, Mead Johnson & Company, Evansville 21, Ind., U. S. A.

toscopic examination and competent investigation of the cause of blood in the urine.

## SPINAL ANESTHESIA

J. M. KELLUM, M.D.

*Thomaston*

While an intern and surgical resident I became interested in spinal anesthesia. I noted that whenever we had a surgical patient who had a cold or who was a poor risk, the visiting staff surgeons usually advised spinal anesthesia. It then occurred to me that if this form of anesthesia proved safer for the poor risk patient, it should also be safer for the good risk patient. So I have been using spinal anesthesia ever since in all the operations of the abdomen and lower extremities that I do. My results have been so uniformly successful that I want to report them; that is, 1,000 operations performed during the past five years with spinal anesthesia.

I use pontocaine crystals (Winthrop Chemical Co.) in all my cases. My technic is very easy and simple. One hour before the operation the patient is given morphine, grains  $\frac{1}{4}$ , and sodium seconal grains 3; thirty minutes before the operation the patient is given 50 milligrams of ephedrine sulfate.

The following doses of pontocaine crystals are used routinely in all adults: (1) For operations on the perineum and lower extremities, 10 mg. of pontocaine crystals dissolved in 4 cc. of spinal fluid and given in the fourth interspace; (2) for operations in the abdomen below the umbilicus, 20 mg. of pontocaine crystals dissolved in 4 cc. of spinal fluid and given in the third interspace; and (3) for abdominal operations above the umbilicus, 20 mg. of pontocaine crystals dissolved in 4 cc. of spinal fluid and given in the second interspace. Many surgeons advise giving smaller doses of the

drug than I have mentioned, but I have never seen any harm done from giving the maximum doses, and the anesthetic is more dependable with the larger doses. I do not tilt the operating table unless the operation calls for the Trendelenburg position, and not then until the patient has had the anesthetic for at least twenty minutes. Many surgeons mix 10 per cent glucose with the pontocaine, but I have not found this necessary. Also, many of the larger clinics are using continuous spinal anesthesia, but since the anesthesia that I give lasts from two and one-half to three hours I have not found it necessary to use the continuous or fractional-dose method.

Using the above technic, I have had no mortalities, no paralysis, and only four anesthetics that had to be supplemented.

Spinal anesthesia is now being used in all the large medical centers all over the world. In spite of this we still hear of some surgeons who question spinal anesthesia. The most common questions are: Is it safe? What are your complications? What is your mortality? Do you get adequate anesthesia? How about headaches? How about nervous patients? Do you supplement with gas, ether, or sodium pentothal?

The first question is, of course, the most important. No anesthetic, however valuable, is to be considered if the element of safety places the patient's life in unwarranted danger. It has been quoted that the mortality of nitrous oxide is one in 20,000; that of ether one in 30,000; and that of spinal one in 60,000.

I mailed 100 questionnaires to leading surgeons and departments of anesthesia all over the United States, asking for the following data: (1) number of spinal anesthetics that they used in 1945; (2) the kind of drug most used; (3) their mortality; (4) their paralysis, if any; and (5) comments and recommendations.

I wish to present this data from a few of the larger clinics:

The Mayo Clinic gave 3,837 spinal anesthetics in 1944; no figures available for 1945. They reported no mortalities or paralysis and only 4 per cent of the anesthetics had to be supplemented with other forms of anesthesia.

The Cleveland Clinic: 1,727 spinal anesthetics; metycaine-novocain used, supplemented with pentothal for comfort to the patient. No mortalities or paralysis. Very favorable to spinal anesthesia.

The Ochsner Clinic: 800 spinal anesthetics with no mortalities or paralysis. Quoting Dr. Ochsner: "I might say that we are very fond of spinal anesthesia but feel that it should be given by an anesthetist because of the potential danger of this type of anesthesia. If it is well controlled, however, it is an excellent one."

Los Angeles County General Hospital: 2,871 spinal, no mortalities or paralysis. A very popular anesthetic with this hospital.

Dr. Robert A. Hingson, co-director of Post-graduate Course in Anesthesia and Obstetrics, University of Tennessee Medical School: 400 spinal (continuous) using metycaine, in obstetrical deliveries and cesarean section, with no mortalities or paralysis.

Grady Hospital, Atlanta: 984 spinal anesthetics in 1945. No mortalities or paralysis.

Rhode Island Hospital, Providence, R. I.: 2,000 spinal anesthetics with no difficulty.

Michael Reese Hospital, Chicago: 1,011 spinal anesthetics, with no mortality, and one transient paralysis.

Medical Center, Jersey City: 3,980 spinal anesthetics, with one mortality due to aseptic meningitis, the first in twenty years. They also stated that 30 out of 33 physicians to be operated on themselves picked spinal anesthesia to be used on them.

Temple University Hospital, Philadelphia: 2,524 spinal anesthetics, using pontocaine with dextrose, with no mortalities and no paralysis.

Walter Reed Hospital, Washington, D. C.: 2,235 spinal anesthetics, using pontocaine—procaine combination, with no difficulties.

U. S. Navy Hospitals: 71,330 spinal anesthetics in 1944, and 115,000 in 1945, with no difficulties. W. J. C. Agnew, Rear Admiral, M. C., U.S.N., stated, "Spinal anesthesia found very satisfactory in the Navy."

The Lahey Clinic, Boston: 2,600 spinal anesthetics in 1945, using pontocaine-dextrose technic and nupercaine, 1 to 1,500 dilution (Howard Jones technic), with no mortalities and no paralysis. This clinic is much in favor of spinal anesthesia. Dr. Lahey and Dr. Sise have some good chapters on this anesthetic in the book by Dr. Lahey, *Surgical Practice of the Lahey Clinic*.

W. T. Lemmon, Philadelphia, the man who has done most to perfect continuous spinal anesthesia: 1,000 continuous spinal anesthetics, using novocain, and reporting no difficulties.

Bellevue Hospital, New York City: 4,000 spinal anesthetics, using monocaine, pontocaine, and procaine, with one mortality, and no paralysis.

Charity Hospital, New Orleans: 2,000 spinal anesthetics, with no difficulties.

W. Wayne Babcock, Philadelphia: 350 spinal anesthetics, using procaine 1 per cent mixed with procaine 10 per cent to produce hyperbaric solution, with no mortalities or paralysis. Dr. Babcock states, "For many conditions it is unequaled, when used in skilled hands."

New York Post-Graduate Hospital, New York City: 873 spinal anesthetics, with no mortalities, and with three minor neurologic sequelae that cleared up completely.



Peter Bent Brigham, Boston: 381 spinal anesthetics, all successful.

The total number of spinal anesthetics given in 1945, as compiled from the replies to my questionnaires, was: 231,174. There were four deaths attributed to the anesthetic; two ocular palsies, which were transient; two cases of meningismus, which cleared up; one foot-drop, one bilateral weakness of leg muscles; one paresthesia of leg; two sciatic pains, two severe headaches lasting two weeks or more; and one severe retention of urinary bladder—all of which cleared up in a few weeks.

Two of the four deaths were attributed to errors in technic. In one case, 50 per cent glucose solution instead of 10 per cent was used to mix with the pontocaine; in the other one the anesthetist confused the dose of procaine with that of pontocaine, and gave the patient 150 mg. of pontocaine, when 20 mg. of that drug is the maximum dose.

The drug most used, as compiled from these questionnaires, was pontocaine mixed with 10 per cent glucose, followed by novocain, procaine, or neocaine (the latter being the same drug), and this was followed by nupercaine, and then metycaine. Spino-caine and monocaine were occasionally used. Many surgeons and anesthetists felt that they got more neurologic sequelae when using metycaine.

As to comments and recommendations compiled from the questionnaires, there seems to be agreement on the following points:

1. The administration of a spinal anesthetic by one not trained in its application should be condemned. An expert anesthetist, who is a Doctor of Medicine, should administer the anesthetic and should supervise the case from start to finish. The surgeon should not give the anesthetic and attempt to watch the patient as is frequently

done. Any anesthetic or method of anesthesia is only as safe as the knowledge and skill of the administrator permits.

2. About the only contraindications for spinal anesthesia are:

(a) Absence of a trained anesthetist.

(b) Diseases of the central nervous system—because any new symptom or any increase in severity of the disease is likely to be attributed by the patient to the anesthetic.

(c) Severe hemorrhage and shock, but shock is a contraindication to any form of anesthesia. Ether is best in severe hemorrhage—as ruptured tubal pregnancy, ruptured spleen or ruptured kidney.

(d) High spinal in cardiac decompensation or any form of abdominal distention, as ascites or pregnancy. Low spinal can be given cautiously in these conditions.

4. Spinal anesthesia, when properly given and supervised, is safe, successful, and has many advantages over inhalation and intravenous anesthetics, and should be used more generally. Its chief advantages are:

(a) Spinal anesthesia is particularly indicated in the presence of disease of the respiratory epithelium.

(b) Another special indication is disease of the liver or the kidneys. Ether, vinyl ether, avertin, and sodium pentothal depend on these organs for their elimination from the body, or suppress or otherwise disturb their function, whereas the effect of spinal anesthesia on them is negligible, or, in the case of the kidneys, occasionally beneficial. Similarly, metabolic diseases, as diabetes, constitute an indication for spinal anesthesia, because it causes less disturbance of the blood sugar level, the reaction of body fluids, and other metabolic processes than do the more powerful general anesthetics.

(c) It is generally held that no other method of anesthesia will consistently pro-

duce as good abdominal relaxation as spinal anesthesia, and most surgeons find that they can perform operations better and with less trauma to the patient under this form of anesthesia. This is especially true for those abdominal operations that are technically difficult, for cases of evisceration, intestinal obstruction, and for cases of local infection, as ruptured appendix, that might be spread by the vigorous manipulation that would be required with less relaxation under other forms of anesthesia.

(d) Anemic, elderly, feeble patients withstand spinal anesthesia, especially pontocaine and nupercaine, which cause very little drop in blood pressure, than they do general anesthesia.

(e) Convalescence is much less stormy with spinal anesthesia. Patients vomit less and are able to retain food more quickly than do those who have had a general anesthetic.

(f) It should not be considered a failure to supplement spinal with other forms of anesthesia, particularly with sodium pentothal; in fact, many surgeons now supplement spinal anesthesia routinely with pentothal. It is far better to supplement, in case the spinal does not go high enough, than it is to give the anesthetic too high in the spinal canal and take the chance of respiratory paralysis. And, I might add here, that in the unfortunate case of respiratory paralysis the only treatment worthwhile is heroic artificial respiration; this must not be neglected for one minute until the anesthetic begins to wear off and descend, and until the patient can breathe unaided. As long as the heart is beating there is a good chance to revive one of these patients.

And thus, to summarize, spinal anesthesia with its better relaxation and exposure makes for much better surgery, and should be used more. Every department of anes-

thesia should have well trained spinal anesthesiologists, and it behooves interns and residents to thoroughly acquaint themselves with the art and science of this excellent type of anesthesia.

#### BIBLIOGRAPHY

1. Surgical Practice of the Lahey Clinic.
2. Joagland, Arthur W.: Spinal Anesthesia in General Practice.
3. Marvin, Frank W.: The Present Status of Pontocaine.
4. Roman-Vega, D. A., and Adriani, John: Prolonged Spinal Anesthesia, New Orleans.
5. Wiggan, Sidney C., and Tartakoff, Joseph: The Use of Combined Pontocaine and Novocain, Papers from the Faulkner Hospital.
6. Cooper, Maurice P.: Low Dosage Pontocaine, Anesthesia in Genito-urinary Surgery.

### FURTHER CONSIDERATION OF MALIGNANT LYMPHOMA

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*Atlanta*

In arriving at a diagnosis of an enlarged lymph node, the determination, if possible, is whether the lesion is one with a favorable or an unfavorable prognosis. We want to know if the disease is progressive and will it lead to a fatal outcome, or whether it is benign and self-limited.

Taking any enlarged nodule or mass in the neck, a detailed and clear-cut history may give a clue as to whether the lesion is inflammatory, or relatively innocent, or probably definitely malignant.

The examination of the throat, mouth and tonsils or the side of the head or face may throw considerable light upon the subject and lead to a correct diagnosis, although now and then such "aside from the issue" lesions may warp one's judgment and lead to an erroneous diagnosis. To illustrate, there may be enlarged tonsils, the mass in the neck may be painful and tender and the patient may have a mild degree of fever and yet the mass in the neck is definitely malignant or a benign tumor, and not inflammatory.

The enlarged lymph nodes as a part of infectious mononucleosis can usually be

suspected from the history, the sore throat, the fever, the prominence of the monocytes in the blood and the heterophile test. The nodes may be tender to palpation.

In tuberculosis the nodes in the neck are more apt to become matted, forming large conglomerate masses which sooner or later become attached to the skin and finally, as a result of the necrosis of the center, the mass or masses become soft and eventually a sinus may develop. The tuberculin test may clear the problem but this test is not 100 per cent reliable. In some instances there is a single tuberculous node which may remain hard for a long time, so that the diagnosis remains in doubt until the results of the biopsy are known.

High on the side of the neck one must think of branchial cysts, most of which are derived from the second cleft although cysts may develop from the first which are found along a course leading from the region of the parotid gland to the submental area, or even in the floor of the mouth. Those from the second cleft are lower, reaching along a line from a point posterior to the lower part of the lobe of the ear to the hyoid bone. A needle biopsy may bring forth a fluid, semi-solid substance or a cheesy-like substance, and if the part has become malignant fragments of the tumor may be obtained. One must not insist too strongly on the sensation of fluctuation for the cyst content may be cheese-like. The positions of such growths are suggestions in the diagnosis. The diagnosis is not simple by any means.

A growth high and on the side of the neck is the tumor of the carotid body. These growths are more rare than the branchial cysts or tumors of the cysts. The carotid bodies are almost invariably in the adult, and more frequently in the male than in the female. They are as a rule well fixed, especially in the vertical direction, although

at times they can be moved from side-to-side depending upon the position of the original body. As a rule, the carotid body is directly in the bifurcation, somewhat posteriorly, so that as the tumor develops it soon involves especially the external carotid artery and sometimes the internal branch as well. If the body lies on the external surface of the artery just below the bifurcation, then the tumor may be fairly movable. They are very hard but the diagnosis is largely dependent upon the position. It is a question in my mind whether a needle biopsy would be of any value in differentiating this from other growths.

A growth in the neck not unlike the carotid body tumor is a neoplasm developing from the thyroid anlage or post-branchial remnant. These growths are usually a little lower and are just as deeply situated. They are not as a rule connected with the thyroid gland. They are well fixed and firm, solid growths. They may occur as a benign or as a malignant neoplasm. I have seen one tumor which had taken on malignant characteristics but in which there was no structure with which it could be connected with any thyroid tissue. This growth to which I refer here is not the thyroglossal cyst or tumor arising from the cyst. The pyramidal lobe is eccentrically placed and may be identical with what I have described.

Although in Hodgkin's disease the nodes are hard, are discrete, are usually fairly large and are said to occur first in the lower part of the neck, often the nodes in other areas enlarge about the same time. But sometimes things don't run the usual course, for the disease may begin high up in the neck with a single node enlarged. The disease usually occurs in adolescence or in adult life but may occur in children. Sometimes there is an eosinophilia and itching of the skin preceding the onset of the disease, but itching of the skin is a common symptom



in the leukemias. Although the blood study aids in the diagnosis yet one must always bear in mind the aleukemic phase or the aleukemic leukemia. In the leukemic phase one does not always find abnormal cells in the blood as is maintained by some writers. Then, too, in leukemia the enlarged lymph nodes may be confined to one region; in other words, the enlargement of the lymph nodes is not always widespread. There are very few things in medicine to which there is no exception.

With a single node in the neck enlarged, the differential diagnosis between a benign, a malignant and the various forms of a malignant lymphoma is sometimes impossible, and I have seen instances in which two biopsies from the mass in the neck did not clear up the matter. When the whole mass comes out we usually get to the bottom of the mystery, although it may take a long time.

Boeck's sarcoid is not often found in the lymph nodes of the neck. It is a condition that is most often in the skin but may occur in the lymph nodes even in various parts or deeper parts of the body. This disease was at one time thought to be an atypical form of tuberculosis. There is less tendency for the nodes to become matted, as in tuberculosis. The disease is more benign in character than tuberculosis. Many patients with this condition recover spontaneously. In the node there develop many small circumscribed areas, the histology of which is much like tubercles but the process never advances to caseation. The giant cells are very much like those of the tubercle.

Xanthogranuloma of the lymph nodes is another lesion which resembles both tuberculosis and Boeck's sarcoid. Clinically it is difficult to differentiate one from the other but in the histologic section the many foam cells settles the matter in favor of the xanthogranuloma. There is caseation of the

tubercle-like structure but, like Boeck's sarcoid, it is a more innocent lesion.

Metastatic growths in the neck are always to be kept in mind in making a diagnosis. The primary growth may be in the pancreas, the bronchial tubes or in the stomach, and possibly in other areas. The small malignant growth beginning around the open of the Eustachian tube must be sought for because it is difficult to see. The metastatic growth may be the first manifestation of the disease. They usually grow rapidly, and are rather high in the side of the neck, and are, in most instances, the first visible manifestation. The metastatic growths with the primary lesion in the internal organs are more likely to be in the lower part of the neck.

I hesitate to mention hygroma of the neck because it is very rare to find this condition and it may really be a benign growth and can easily be diagnosed by means of needle biopsy, which will bring forth a milky fluid.

About two years ago I had occasion to examine a growth from one side of the neck rather high up. The histologic picture was that of a epidermoid carcinoma of the squamous cell type and, of course, a metastatic lesion. This patient has been seen periodically even since but there is neither evidences of a primary growth nor of a recurrence. It is very probable that was an error in diagnosis and that the lesion was primarily in the lymph nose arising from either a fixed or a free macrophage, but growth from these cells is usually malignant. I might say that the picture did not suggest that the growth arose from a branchial cyst.

I have seen two cases, the growths from whom gave a picture of adenocarcinoma. One could find no connection with a thyroid, and hence were regarded as metastatic, but follow-up of the patients did not bear

that out. If we can keep in touch with these patients over a long period of time, say four or five years, this matter may be clarified.

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## SURGERY OF THE COLON IN WARTIME

### *Experiences in the Management of Reconstruction of the Colon in Z. I. Hospitals*

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DAVID HENRY POER, M.D.  
*Atlanta*

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The surgical care of the battle casualties in the war just ending has been divided into three phases by Churchill: (1) The initial treatment which, in case of abdominal wounds, was the original operation which was performed in a mobile field or evacuation hospital. (2) The reparative treatment which included the care given in the fixed hospitals in the Zone of Communications. (3) The reconstructive treatment which was performed in the Zone of the Interior hospitals in this country.

Reports of the surgical management of wounds of the colon and rectum in medical installations named in the first group have been described in comprehensive reports by Hurt, Mason and others, and in the second group by Colcock, Horsley and Michaux. It is the purpose of this paper to describe our experiences in the general hospitals within the United States when dealing with patients who had received wounds of the large bowel.

At this point full credit should be given to the surgeons who performed the original definitive operations for the splendid results obtained. At no place was this more strikingly demonstrated than in dealing with the abdominal wounds with damage to the viscera, and was reflected by a strik-

ing decrease in the mortality and morbidity rates. The former had risen as high as 95 per cent in some wars, and the average during World War I was given as 65 per cent by some writers. The mortality figure for all abdominal wounds has been reduced to 25 per cent and even lower in some groups, and an average of 35 per cent has been established for colon and rectal wounds alone. Several factors were responsible for these excellent results and the most important of these are: (1) The performance of difficult definitive operations by experienced and well trained surgeons within a short distance of the front line. The time interval between wounding and surgery was reduced to an average of 10 hours in many instances and not infrequently was as low as 6 hours. (2) The early treatment of shock which was started when necessary at the place where the soldier was injured and continued until it had disappeared. (3) An efficient triage system by which the operation was performed at the optimum time for recovery. (4) The exteriorization of the injured bowel with formation of a loop colostomy subsequently. This last procedure was, no doubt, one of the outstanding contributions of the surgeons caring for colon wounds in this war.

The procedures carried out during the initial phase of treatment of colon and rectal wounds were, in general, as follows:

- (1) Closure of perforation without colostomy.
- (2) Resection and anastomosis without colostomy.
- (3) Closure of perforation with proximal colostomy (loop or tube).
- (4) Resection with ends brought out at widely separated points.
- (5) Resection and an anastomosis with proximal colostomy.
- (6) Resection of ascending colon and terminal ileum with side-to-side or end-to-side anastomosis and performance of single or double mucons fistula.
- (7) Exteriorization of damaged segment.
- (8) Drainage of fascia propia, coccygectomy, and proximal colostomy, for wounds in extraperitoneal rectum.

During the early stages of the war perforations of the colon and rectum were treated at times by closure or resection with-



Figure 1  
Sigmoid double-barrel colostomy. Perforation of rectum and small intestine.

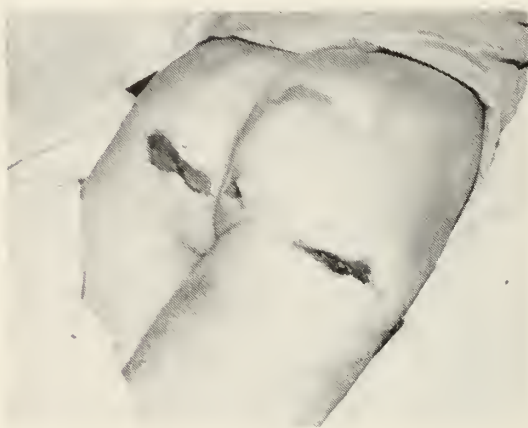


Figure 2  
Bullet wound of buttocks with perforation of rectum

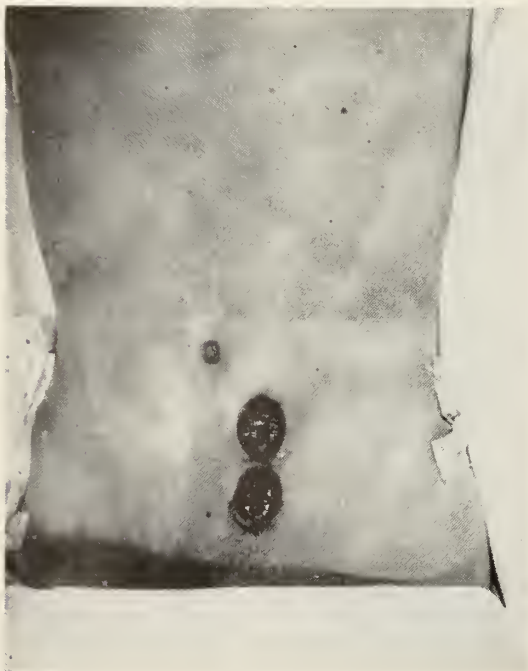


Figure 3  
Sigmoid loop colostomy with skin bridge to separate stoma and provide complete diversion of fecal stream.

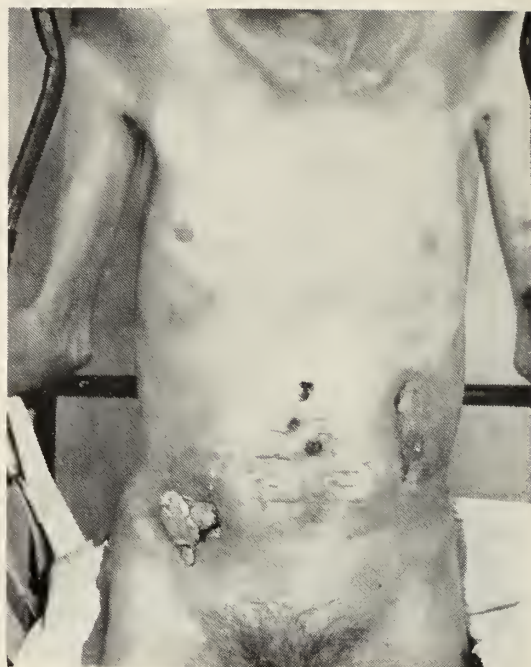


Figure 4  
Malnutrition and skin irritation accompanying colostomy of right colon. Multiple abdominal injuries.

out making a colostomy, but later this was added in practically all instances. An occasional unnecessary colostomy was well compensated for by a gratifying reduction in mortality. Exteriorization became increasingly popular until regulations required that damaged loops of large bowel be treated in this manner. Colostomies made proximal to the closure of perforations were usually of the tube or tangential type on the right side, and a simple loop colostomy in the transverse and descending colon. Inaccessible wounds of the extraperitoneal rectum could only be drained, removing the coccyx if necessary and diversion of the fecal stream accomplished by performance of a complete sigmoid colostomy.

Upon arrival in general hospitals in this country, patients with colostomies were almost always severely depleted and malnourished due to long confinement, a decrease in desire for food while experiencing frequent unpleasant dressings, and the association of serious wounds elsewhere. Secondary anemia, decrease in serum protein levels, and loss of body weight up to 50





Figure 5

Sacral colostomy following perforation of distal rectum. Colostomies of this type were unsatisfactory.

per cent were not uncommon findings, and first efforts were directed toward their improvement. Fortunately, the smell of home land and the sight of familiar faces had a most remarkable effect upon appetite and desire for early recovery, so that all cases were ready for final surgical procedures within a few weeks or as soon as other injuries had improved to a necessary degree.

During the waiting stage it became necessary to revise poorly functioning colostomies, and this was particularly needed in cases of fecal drainage through buttock wounds where complete diversion was required. Separation of the stoma was accomplished by a bridge of skin between the openings or by closure of the distal opening. On occasions spurs were rebuilt when retraction had caused interference with function.

The problems that presented themselves at the time of operation were concerned with safe closure of the colostomy and a functioning reconstruction of the colon and rectum.

It was considered wise to close colostomies as early as possible, and this resulted in a few operative failures. These occurred in less than 1 per cent of cases and did not diminish the desire for early riddance of a necessary nuisance such as a colostomy soon becomes.



Figure 6

Loop colostomy of right colon, and massive injury of flank and hip.

The tube or tangential colostomy was by far the easiest to close, because it had usually decreased to a small fistulous tract which required simple closure and inversion into the cecum or ascending colon. The loop colostomy without spur formation, if incomplete, was closed easily by simple suture of the anterior and lateral walls, and this could be accomplished outside the peritoneal cavity. End-to-end anastomosis was performed if complete division of the gut had been done, and if necessary this was done within the peritoneal cavity.

Crushing of the spur was accomplished without difficulty in many institutions, and was followed by simple suture closure of the anterior wall. Other surgeons experienced trouble in dealing with spurs that had not been well built, resulting in rotation of the limbs and interposition of tissue or gut. In these instances an open intraperitoneal operation was performed with liberation of each loop in such fashion that a clean anastomosis could be performed.

In cases in which resection had been done

and the ends implanted at widely separated points, it became necessary to open the peritoneal cavity widely, and mobilize the loops sufficiently to permit anastomosis without tension. If the right colon had been resected, an anastomosis between the ileum and colon was performed, and the mucous external fistula allowed to close spontaneously.

Chemotherapy was used extensively for preparation for surgery and also immediately after. The sulfa compounds with low absorption into the blood stream (sulfasuxidine and sulfathalidine) were administered for five to seven days before operation and the same length of time afterwards. Secondary hemorrhage occurred twice in one series and was thought to be due to the untoward effect of this preparation. Vitamin K has been given since then along with the sulfa compounds. Penicillin has been used in combination and alone and the results have been satisfactory.

Complications included the local failure of the anastomosis resulting in abscess and fistula formation, and in two instances peritonitis and death. Following local abscess and infection of the wound, dehiscence occurred in seven instances and hernia through the fascial defect in cases. Intestinal obstruction occurred in twelve instances, but secondary operation was required in only three. There were 11 deaths in 2,026 operations, a percentage of 0.5 per cent.

With the exception of the instances noted, many of the patients returned to duty and all of them recovered sufficiently to return to their former civilian occupations. A small number of patients remained in the hospital for treatment of associated conditions, such as destruction of the anal sphincter and the transfer of sacral colostomies.

## DISCUSSION OF SYMPOSIUM ON SURGICAL PROBLEMS

DR. BEN H. CLIFTON (Atlanta): The time is rapidly passing and there are a good many to discuss the papers, so my remarks will be very short. I think we all agree that the papers have been most excellent and really a wealth of material has been spilled here this morning.

In regard to pilonidal cysts, I think the question boils down to whether a case is infected or not infected. If not infected, I believe simple excision and primary closure is the procedure of choice. If infected, it should be excised and allowed to granulate up.

The question of anesthesia, I think, is always a question that should bring about some discussion. Every man who does surgery should realize that there is a place for most any type of anesthetic, and there is nothing that gives him more comfort than to know that someone is to give the anesthetic who can help him. He should be qualified also to help study the patient beforehand to assist in determining which is the best type of anesthesia for that patient in his present condition. I want to thank Dr. Kellum for bringing this subject up.

DR. ERNEST FELBER (Atlanta): I agree with Dr. McDonald on the importance of cystoscopy every patient with blood in the urine. I have the feeling that partly responsible for the delay in referring cases to the urologist is the fact that patients as well as doctors are still afraid of cystoscopic examinations on account of the pain the examination causes. I will not take up too much time, but would like to advocate the use of small caliber cystoscopes which in the majority of cases can be used in the office with local or no anesthesia without causing discomfort to the patient. In many cases cystoscopy is a simple procedure, not taking more than a few minutes' time.

DR. J. ROBERT RINKER (Augusta): I want to thank Dr. McDonald for bringing this important subject to our attention. Certainly one should be on the lookout for hematuria and stress to the patient the importance of early examination. If we see these tumors when they are small, we can handle them many times through the cystoscope or resectoscope without opening the bladder. When the tumors get large, in order to do a good job, sometimes it is necessary to use other procedures. Then, if the patient is examined regularly, as Dr. McDonald has said, these recurrences can many times be handled through the resectoscope and that makes it unnecessary to open the bladder again. You can't just keep opening the bladder; there is a limit to the times you can do that.

When we say recurrence in bladder tumors we don't always mean that the tumor you treated is the tumor that recurred, because these tumors tend to spread under the mucous membrane and maybe you have done a perfectly good job of curing the tumor over on one side, and when you re-examine the patient you find he has a papilloma on the other side and they keep coming around over the surface of the bladder. So just bear in mind that recurrence doesn't always mean the same tumor you treated has come back, but a recurrence of the disease.

I can't help but add a word of discouragement in the treatment of bladder tumors because unfortunately it has not been too good and even though we see them early, which is helpful, we can't expect too much in all cases because the degree of malignancy is a very important factor and if you are unfortunate enough to have a grade 3 or 4 to begin with, your results are not apt to be too satisfactory. Grade 1 and 2 tumors can be handled very nicely.

I wish to thank Dr. McDonald for bringing this important subject to our attention and stress his point for early examination.



DR. W. F. REAVIS (Waycross): Dr. Rinker brought out the point that I want to stress most; namely, the classification of the tumor. This gives you information that is necessary for treatment and expectancy of cures.

In lowgrade 1 and 2 type tumors, these respond to transurethral coagulation and postoperative x-ray therapy. In grade 3 and 4 tumors, unless they are located in a bladder in which surgical resection of that area can be done, there is little hope of cure. In this type tumor life can be prolonged by transurethral resection and coagulation, even though this has to be repeated at intervals for a considerable length of time. In our experience, x-ray therapy has been of very little value in this type of tumor. It is my opinion that surgical resection of bladder tumors has proven very unsatisfactory and I believe most of them can be handled by transurethral resection just as well.

Dr. McDonald's paper has brought out a very timely subject and I certainly think this should make everyone who finds blood in urine have careful examinations made to determine from where the blood is coming. Approximately 25 per cent of all patients with frank bleeding are found to have a bladder tumor.

DR. HAROLD P. McDONALD (Atlanta): I wish to thank the gentlemen for the discussion and to reiterate that the purpose of this paper was to bring out the idea of early diagnosis, especially to have cystoscopic examinations done early in the phase of hematuria when a tumor might be present. Early is the keyword. The trite old adage, "A stitch in time saves nine."

Of course, in the scope of this paper there was not time to go into treatment, four or five forms of treatment. Some tumors are admittedly more malignant than others and the classification of tumors we could not go into but here, again, early is the keyword. If it is highly malignant, the earlier we get started the better and whatever treatment used will have effect. Regular examinations afterward are important. We tell our patients, "By all means every three or four months your bladder should be examined for recurrences." Never promise them that they will not have recurrences. Warn them that they may have recurrences because recurrences, as we know, are the rule in bladder tumors. They don't always come at the same site and, as Dr. Rinker mentioned, sometimes are on the opposite side of the bladder. It is always a good idea to look at the old site and see the old scar and look around and see that there is no evidence of tumor in the rest of the bladder. Pat them on the back and tell him to come back in three months.

As Dr. Felber said, modern cystoscopic technic need not be painful. Patients will soon come in and not dread to have cystoscopic examinations made, particularly if they come in and are through in three or four minutes and are ready to go on about their business.

#### VETERANS' NEWS

Veterans Administration now has 268 full-time chaplains representing 29 churches in its 136 hospitals and homes.

Veterans Administration rating boards rated 345,000 cases for disability compensation or pensions during January, 1947.

Veterans may pay National Service Life Insurance premiums to Veterans Administration monthly, quarterly, semi-annually or annually.

National Service Life Insurance proceeds are exempt from creditors' claims against the insured or the beneficiary.

National Service Life Insurance carries no restrictions on the residence, travel or occupation of insured veterans, Veterans Administration said.

The number of disabled veterans awaiting induction into training for vocational rehabilitation continued to decline during January, 1947, Veterans Administration said.

Veterans Administration estimated the World War II veteran population for March 1, 1947, at nearly 14,500,000 and the total veteran population at approximately 18,378,000.

#### VETERANS' HOSPITALS

The number of veterans hospitalized by Veterans Administration reached a new all-time high on January 22, 1947.

VA reported that a total of 119,845 veterans were receiving treatment in VA hospitals and homes and in non-VA hospitals under contract to VA on that date.

VA's load of veteran-patients has been increasing steadily. A year ago, 92,276 veterans were hospitalized by VA, and six months ago 99,509.

Of the nearly 120,000 patients under VA care on January 22, a total of 90,470 were in VA hospitals; 15,298, in VA homes, and 14,077 in non-VA hospitals.

While the number of veterans hospitalized has been increasing, the number awaiting hospitalization has been declining. On January 1, only 22,385 veterans with nonservice-connected disabilities were awaiting VA hospitalization, the smallest number since March, 1946.

The drop was attributed to an increase in the number of beds available in VA hospitals and homes and to a more rapid turn-over of patients because of improved medical treatment.

The number of applications on file for hospital and domiciliary care also dropped during December, 1946, to 63,387, a new low since June, 1946. The decrease probably was caused by veterans delaying their applications for treatment until after the Christmas holidays, rather than to a drop in the number in need of medical attention.

Veterans with service-connected ailments are given top priority for VA hospitalization, but veterans with nonservice-connected disorders are hospitalized only when beds are available and if they say they cannot afford treatment in other institutions.

#### HEALTHGRAMS

It is particularly important that tuberculosis be eliminated among the people 15 to 44 years of age. This group constitutes our reservoir of population replenishment and is the source of our most vigorous labor supply. The continuation of a nation's vitality depends upon the health of its people. We must put an end to the costly neglect of known control methods and take up positively the offensive against a disease that kills the young, the hopeful, and the strong. Editorial, Pub. Health Rep., Oct. 4, 1946.

In tuberculosis, rehabilitation is a form of treatment. Obviously, during the period of diagnosis and early hospitalization, medical care is paramount; but, at some point during the period of hospitalization, vocational guidance and training constitute a large portion of treatment and are continued into the immediate post-sanatorium period. Herman E. Hilleboe, M.D. and Norvin C. Kiefer, M.D., Pub. Health Dep., March 1, 1946.

Advances made in the treatment of tuberculosis, particularly "collapse therapy" and other surgical procedures, make it desirable for general hospitals to admit many such patients, especially in certain phases of the illness, but special institutions and tuberculosis sanatoria, no doubt, will still be needed to care for long-term convalescent patients. Hosp. Survey News Letter, Feb. 1946.



**THE JOURNAL**

OF THE

MEDICAL ASSOCIATION OF GEORGIA

478 Peachtree Street, N. E., Atlanta, Ga.

APRIL, 1917

**CONFLAGRATION TOLL AT PEAK  
IN RECENT YEARS**

It is disappointing that for at least a third of a century little or no progress has been made in reducing the mortality from conflagration, says the *Statistical Bulletin* of the Metropolitan Life Insurance Company for November, 1916. In fact, during the war years the number of deaths from this cause reached a record high. In 1914, the latest year for which official nationwide figures are available, more than 3,000 persons in the United States were fatally burned, trampled to death, suffocated, or otherwise mortally injured in conflagrations.\* This number is almost twice that of about a decade earlier. Although more recent data relating to the many millions of . . . policyholders indicate that the loss of life from this hazard decreased somewhat in 1945, the figure for that year was probably still one of the highest in the last three decades.

The unfavorable experience during the war years was due, in part, to the unusually heavy toll of life taken by each of several large fires. The most disastrous of these was the conflagration in a Boston night club late in November of 1912, in which 192 lives were lost. The circus fire in Hartford, Conn., in July 1944 took the lives of 168 men, women, and children, and only three months later a gas tank explosion and fire in Cleveland, Ohio, caused 130 deaths. It was only a few years earlier, in April 1940, that 208 lives were lost in the conflagration which swept through a dance hall in Natchez, Miss. Following these catastrophes, a number of cities throughout the country have increased their supervision and have tightened the fire regulations for public eating and amusement places.

While a conflagration in a public place is a particularly serious threat to life, actually the bulk of the deaths year after year—about four fifths of the total—are the result of fires in private dwellings, apartment houses, tenements, and rooming houses. Hence, the problem of reducing the death toll from conflagration lies mainly in the prevention of fires in the home. In this connection, attention should be directed to the special hazards growing out of the current housing shortage. A goodly number of houses long unoccupied and in poor repair are now being used by families who cannot find more

suitable shelter. These dwellings frequently are little short of firetraps. In many of these places and in households where several families are living together, temporary cooking and heating facilities have been installed and their use constitutes an additional fire hazard. Moreover, because of the urgency for housing, coupled with shortages of essential materials, for a time the temptation will be great not to insist upon the usual standards of construction, with the result that a very considerable number of new homes may not be properly safeguarded against fire.

It is apparent from the foregoing that the American people individually should be more alert now than ever before to the hazard of conflagration, and should take suitable precautions to prevent loss of life from this cause in their own homes. This warning is particularly pertinent as the cold weather months approach, since it is in the winter season that the mortality from conflagration reaches its maximum. The Yuletide holidays call for special caution because of the hazards incidental to the illumination and decoration of Christmas trees. Lighted candles constitute a serious conflagration hazard and should never be used. The illumination of the tree can be both attractive and safe by the use of approved electric wiring and lights, and by the use of decorations made of nonflammable materials. Moreover, inasmuch as the tree itself is extremely flammable, it is desirable as a fire prevention measure to dispose of it within a short time after the holidays.

Young children and older people are the chief victims of conflagrations. Children under 5 and persons over 65 account for more than two fifths of the deaths annually from this cause, although these two age groups constitute only one seventh of the total population. Clearly, the young and the old are not able to take care of themselves in these emergencies, the major proportion of which occur at night. Colored persons have higher death rates than white persons, especially at the young and old ages. This is partly because a greater proportion of the colored live in substandard homes, and partly because relatively more colored children are left without adequate supervision while parents are out working.

A comprehensive fire-prevention program involves the architect, the builder, the building superintendent, the fire and building departments, and a number of other agencies. But the individual members of the household have an important, perhaps the most important, part to play in the prevention of fires. Many lives would be saved if people would take the simple precaution to see that the heating system, electrical cords and appliances are in safe condition, and if they would be more careful in using matches and see to it that children are kept from playing with them. Moreover, many lives are lost every year because of careless smoking.

\*Under this heading are included deaths resulting from burning buildings and from forest and prairie fires. Deaths in burning automobiles, airplanes, ships, and other vehicles, and deaths from mine fires and explosions are assigned to other titles.

## PROVISIONAL MORTALITY AND NATALITY DATA FOR 1946

Provisional reports just received indicate that a total of 3,260,000 births were registered in the United States in 1946, the U. S. Public Health Service announced recently. This figure surpasses the previous high of 2,934,860 recorded in 1943 by 11 per cent. The provisional birth rate for the past year was 23.3 per 1,000 population, including the armed forces overseas, or nearly 19 per cent above the rate of 19.6 for 1945 and 8 per cent higher than the wartime peak of 21.5 for 1943. In 1943 the birth rate was the highest recorded since 1924.

The mortality record for 1946 compared favorably with that for 1945. The estimated number of deaths was 1,100,000, which is nearly the same as the final number of 1,401,719 tabulated for 1945. The provisional death rate is estimated at 10.1 per 1,000 population excluding the armed forces overseas as compared with the final rate of 10.6 for 1945. This decrease of 4.7 per cent between 1945 and 1946 is, in part, due to the increase in the population at the younger ages, which resulted from the return of several million young men from duty overseas with the armed forces.

The provisional infant mortality rate for the reporting area of 46 States and the District of Columbia was 36.1, or 3.7 per cent lower than the corresponding rate of 37.5 infant deaths per 1,000 live births for 1945. These rates have been adjusted for the changing number of births.

## SIX LEADING ACCIDENTAL CAUSES OF DEATH IN 1945

Motor-vehicle accidents led all other types of accidental causes of death in the United States in 1945, the National Office of Vital Statistics, U. S. Public Health Service, announced recently. Of a total of 95,918 deaths from all accidental causes, 23,076 were due to motor-vehicle accidents. Injury by fall ranked second as a cause of fatal accidents with 23,333 deaths. Drowning, with 5,676 deaths, was third in importance as a cause of accidental death, and burns fourth with 5,105 deaths.

A sharp reduction occurred between 1944 and 1945 in the number of deaths from airplane accidents. In 1945 3,552 deaths were attributed to this type of accident, or slightly more than half as many as the total of 6,656 for 1944. The decrease, which was probably due to curtailment of the aviation training programs of the armed forces, brought deaths from airplane accidents to fifth place from a rank of third for 1944. The sixth accidental cause on the list for 1945 was railway accidents with 3,320 deaths.

Deaths from all other accidental causes numbered 26,856, or approximately 1,500 less than the number caused by motor-vehicle accidents alone.

## CUTTING NERVES STIMULATING ACIDITY AIDS ULCER PATIENTS

Cutting the nerves which telegraph sensations to the stomach has brought relief to 91 per cent of the stomach ulcer patients operated on at a Boston hospital, according to four physicians writing in the March 15 issue of *The Journal of the American Medical Association*.

The physicians—Francis D. Moore, William P. Chapman, Milford D. Schulz and Chester M. Jones—are from the Department of Surgery and the Department of Medicine, Harvard Medical School, and the Gastro-intestinal Clinic, Massachusetts General Hospital.

The theory behind cutting of the vagus nerves in stomach ulcer patients is to prevent these nerves from sending impulses, originating in the brain, to the ulcerated stomach where they keep it from healing by inducing secretion of an abnormal amount of gastric juices. These juices are an acid which irritates the ulcer.

The physicians point to three types of patients who are most benefited by this operation: (a) Patients with previous surgery in whom a new outlet to the stomach has been made and in whom renewed ulceration is present. (b) Patients with painful duodenal (the first part of the small intestine leading from the stomach) ulcer coming on during periods of environmental stress, the pain being transiently relieved by antacid preparations and the patient being of intelligent, nonpsychiatric background. "This favorable group," state the authors, "includes many patients who are wage earners, who are taking care of a family or who are busy in a useful position in society." (c) Patients in whom the ulcer has produced hemorrhage or perforation in the past and which can be seen in x-ray films.

The physicians' two-year experience with this type of operation indicates that 32 ulcers healed out of 37 cases. In one there were poor results and four others were too recent to review. The patients were observed from three to 22 months postoperatively.

"The great majority of patients (91 per cent)," state the authors, "have been well pleased with the results and have thrown off the shackles of diet and repeated office or hospital medical care for the first time in many years."

They add that "at the present time there can be no doubt that vagus resection offers a potent and effective means of dealing with peptic ulcer."

*The JOURNAL would like to record the scientific work of Georgia physicians. It earnestly requests, therefore, that each physician in the State who publishes a contribution in some other medical periodical submit an abstract of the article for these columns.*



## GEORGIA DEPARTMENT OF PUBLIC HEALTH

### THE HOSPITAL SURVEY AND CONSTRUCTION ACT

It is widely known that the 79th Congress enacted a hospital survey and construction bill (the Hill-Burton Bill), which authorized the appropriation during the next five years of \$375,000,000 in Federal funds to assist states in building needed hospitals and health centers. It is much less widely known that this act sets forth certain conditions under which this assistance may be available, and further provides that the Surgeon-General of the U. S. Public Health Service, who is responsible for its administration on the Federal level, shall issue regulations which states must observe in planning their hospital construction programs under the act. Following is a summary of some of the more important features of this act, and of the Surgeon-General's regulations:

The purpose of the act is to provide Federal assistance to the states in order that "The necessary physical facilities for furnishing adequate hospital, clinic and similar services to all their people" may be attained. Federal grants-in-aid are authorized to assist the states.

To determine their hospital and public health center needs through state-wide surveys.

To develop state-wide programs for construction of facilities needed to supplement existing facilities.

To construct facilities which are thus determined to be necessary and which are in conformity with the construction program, constituting the approved state-wide plan.

The types of facilities which may be constructed under this program include general hospitals, tuberculosis hospitals, mental hospitals, chronic disease hospitals and public health centers. Not included are institutions which furnish primarily domiciliary care, and privately owned institutions. The term "construction" as used in the act, and for which Federal assistance is authorized, is broadly defined to include:

1. Construction of new buildings.
2. Expansion, remodeling and alteration of existing buildings.
3. Initial equipment of any such new or existing buildings.

Included in construction costs are architects' fees, but specifically excluded, except in the case of public health centers, is the cost of the acquisition of land.

In order that a state may qualify for Federal assistance, provided under the act, it must designate a single state agency which shall make an inventory of its existing hospitals and related institutions, a survey of the need for such facilities and develop a plan for the construction of such supplementary facilities as may be needed

to provide adequate service. In Georgia the State Department of Public Health has been designated as this agency, and under its direction the survey and planning aspects of the program are under way.

The Surgeon-General's regulations are largely concerned with the number and the general method of distribution of hospitals under the program. These regulations specify that in a state such as Georgia, with a population density of more than twelve persons per square mile, the number of hospital beds required to provide adequate service shall be as follows:

In general hospitals,  $4\frac{1}{2}$  per 1000 population.

For tuberculous patients, 2.5 times the average annual deaths from tuberculosis in the state over the five-year period from 1940 to 1944 inclusive.

For mental patients, 5 per 1000 population.

For chronic disease patients, 2 per 1000 population.

The number of public health centers which may be constructed under the program, together with those already in existence, shall not exceed one per 30,000 state population.

The procedure which the state agency shall follow in developing its plan for the distribution of general hospital beds among the different areas of the state, so as to provide comprehensive and adequate types of hospital services to all sizes of communities, is prescribed by the regulations. The state is to be divided into three types of hospital service areas in order to facilitate the development of a coordinated hospital system, which system is defined in the regulations as follows: "An inter-related network of general hospitals throughout a state in which one or more base hospitals provide district hospitals, and the latter in turn provide rural and other small hospitals with such services relative to diagnosis, treatment, medical research, and teaching as cannot be provided by the smaller hospitals individually." These three types of areas may be briefly described as follows:

*Base area*—an area so designated by the state agency which contains either the teaching hospital of an approved medical school or hospital of not less than 200 beds in an area of at least 100,000 population, which shall be suitable for use as a base hospital in the coordinated hospital system.

*Intermediate area*—an area so designated by the state agency, having a total population of not less than 25,000 and which contains or will contain, on the completion of the hospital construction program under the state plan, at least one general hospital of 100 or more beds which would be suitable to serve as a district hospital in a coordinated hospital system.

*Rural area*—any area so designated by the



state agency which constitutes a unit, no part of which has been included in a base or intermediate area.

On the basis of the data obtained in its survey, the state agency, with the assistance of a state advisory council which is provided for under the act, shall determine the locations within each area at which needed hospital beds or health centers should most appropriately be provided. The state agency shall then proceed to set up an over-all construction program which shall show the relative need for each project included, irrespective of the availability of funds for construction and for maintenance and operation. The priorities given to the individual projects included in this plan or program shall conform to the following regulations: Additional facilities shall have a higher priority rating than replacements. In the general hospital category relative priority shall be based on the relative need for beds in the area in which the projects will be located, taking into account the utilization of existing general hospital beds in the area and giving special consideration to projects providing service for persons located in rural communities and areas with relatively small financial resources.

When the state plan has been completed, the state agency is required to publish a general description of the provisions proposed to be included in it, and provide for a public hearing, at which all interested persons or organizations shall be given an opportunity to be heard. The plan shall then be submitted to the Surgeon-General for his approval.

After the Surgeon-General has approved the state plan, political subdivisions of the state, public or other non-profit agencies may submit applications (on forms to be provided) to the Surgeon-General, through the state agency, for the construction of individual projects. Each such application must set forth a description of the site, plans and specifications for the project which must be in accordance with the regulations prescribed by the Surgeon-General, reasonable assurance that two-thirds of the cost of construction will be available from other than Federal sources, and that funds will be available to meet the entire cost of its maintenance and operation when completed.

Before such an application is recommended by the state agency to the Surgeon-General, the state agency must have assurance from the applicant that the facilities to be constructed will be available to all persons residing in the area to be served, without discrimination on account of race, creed or color and, except in cases in which it is demonstrated to be not feasible, that a reasonable volume of "free patient care" will be provided. The applicant must further assure the state agency:

That actual construction work will be performed by the lump-sum (fixed price) contract method, and that adequate methods of com-

petitive bidding will be employed, and the contract awarded to the responsible bidder submitting the lowest acceptable bid.

That the applicant will provide and maintain competent and adequate architectural or engineering supervision and inspection of the project, to insure that the completed work conforms with the approved plans and specifications.

That the applicant will conform to state standards for operation and maintenance and to applicable state laws and state and local codes, regulations and ordinances.

On approval by the state agency and the Surgeon-General, Federal funds in the amount of thirty-three and one-third per cent of the construction costs of a project will be paid by the Federal Government, within the limits of the total Federal allotment of the state.

JOHN E. RANSOM, *Hospital Consultant*,  
Division of Hospital Administration,  
Georgia Department of Public Health.

#### A. M. A. MEMBERSHIP HITS PEAK IN 1947

The American Medical Association has 131,590 members and 72,243 Fellows as of March 1, 1947. To qualify as a Fellow, a doctor must be a member in good standing of the A. M. A., graduate of a recognized medical school, pay Fellowship dues and subscribe for *The Journal*. Formal application must be made to the Judicial Council for approval. Only those members who qualify as Fellows are eligible for election as officers, may serve as members of the House of Delegates, may register at the annual sessions of the Association or may participate in the work of its scientific sections.

#### BOSTON UNIVERSITY DEAN TO SUCCEED DR. JOHNSON AS HEAD OF COUNCIL

The Board of Trustees of the American Medical Association announced recently the appointment of Donald G. Anderson, M.D., dean of the Boston University School of Medicine, as Secretary of the Council on Medical Education and Hospitals of the American Medical Association.

Dr. Anderson, who will take up his new duties about July 1, succeeds Victor Johnson, M.D., who recently was appointed director of the Mayo Foundation for Medical Education, Rochester, Minn. Dr. Johnson has been secretary of the council since 1943.

Dr. Anderson is a graduate of Harvard College and received his M.D. degree from Columbia. He has had hospital and academic appointments at Boston City Hospital, Presbyterian Hospital in New York, Evans Memorial and Massachusetts Memorial Hospitals in Boston, and Columbia. During the war he was associated with Dr. Chester Keefer in penicillin research for the Office of Scientific Research and Development. His research publications deal primarily with the employment of the sulfa drugs, penicillin and streptomycin in the chemotherapy of infections.

Dr. Anderson will be the executive officer of the oldest standing committee of the American Medical Association. The Council on Medical Education and Hospitals, established in 1905, was responsible for the revolutionary improvements in medical education which occurred in the second decade of this century, and is today concerned with the maintenance of high educational standards in medical schools, hospital internships and training of physicians to become specialists, as well as in such fields related to medicine as clinical laboratory and x-ray technology, physical therapy and occupational therapy.

## COUNTIES REPORTING FOR 1947

*Appling County Medical Society*

President—E. J. Overstreet, Baxley  
 Secretary-Treasurer—James T. Holt, Baxley  
 Delegate—C. I. Bryans, Jr., Baxley  
 Alternate Delegate—H. C. McCracken, Baxley

*Baldwin County Medical Society*

President—L. E. Pennington, Milledgeville  
 Vice-President—E. W. Allen, Milledgeville  
 Secretary-Treasurer—Walter A. Sikes, Milledgeville  
 Delegate—Z. S. Sikes, Milledgeville  
 Alternate Delegate—H. D. Allen, Jr., Milledgeville  
 Board of Censors: Y. H. Yarbrough, Milledgeville

*Ben Hill County Medical Society*

President—W. P. Coffee, Fitzgerald  
 Vice-President—Raymond Harris, Ocilla  
 Secretary-Treasurer—Francis Ward, Fitzgerald  
 Delegate—J. E. Smith, Fitzgerald  
 Alternate Delegate—G. K. Cornwell, Fitzgerald

*Bibb County Medical Society*

President—C. N. Wasden, Macon  
 President-Elect—Leon D. Porch, Macon  
 Secretary-Treasurer—A. M. Phillips, Macon  
 Delegate—J. B. Kay, Byron  
 Delegate—W. W. Baxley, Macon  
 Alternate Delegate—H. C. Atkinson, Macon  
 Alternate Delegate—M. B. Hatcher, Macon

*Bulloch-Candler-Evans Medical Society*

President—Elizabeth Fletcher, Statesboro  
 Vice-President—Louie H. Griffin, Claxton  
 Secretary-Treasurer—John Mooney, Jr., Statesboro  
 Delegate—R. L. Kennedy, Metter  
 Alternate Delegate—J. H. Whiteside, Statesboro  
 Board of Censors: W. E. Floyd, W. E. Simmons and J. H. Whiteside.

*Georgia Medical Society*

(Chatham County)

President—W. V. Long, Savannah  
 Vice-President—J. E. Porter, Savannah  
 Secretary-Treasurer—G. H. Johnson, Jr., Savannah  
 Delegate—J. L. Elliott, Savannah  
 Delegate—G. L. Touchton, Savannah  
 Alternate Delegate—H. H. McGee, Savannah  
 Alternate Delegate—Ruskin King, Savannah

*Clayton-Fayette Medical Society*

President—J. R. Wallis, Lovejoy  
 Vice-President—J. L. Robak, Jonesboro  
 Secretary-Treasurer—T. J. Busey, Fayetteville  
 Delegate—Y. R. Coleman, Jonesboro

*Colquitt County Medical Society*

President—William G. Cumbie, Moultrie  
 Vice-President—John F. McCoy, Moultrie  
 Secretary-Treasurer—Preston D. Conger, Moultrie  
 Delegate—C. C. Brannen, Moultrie  
 Alternate Delegate—J. B. Woodall, Moultrie  
 Board of Censors: J. B. Woodall, Francis M. Gay and R. M. Joiner.

*Crisp County Medical Society*

President—Charles E. McArthur, Cordele  
 Secretary-Treasurer—Orion T. Gower, Jr., Cordele  
 Delegate—P. L. Williams, Cordele

*Floyd County Medical Society*

President—Ralph B. McCord, Rome  
 Vice-President—Warren M. Gilbert, Rome  
 Secretary-Treasurer—Lee H. Battle, Jr., Rome  
 Delegate—Oliver W. Jenkins, Lindale  
 Board of Censors: Robert F. Norton, G. W. Holmes Cheney, and Robert C. Maddox.

*Forsyth County Medical Society*

President—Rupert H. Bramblett, Cumming  
 Vice-President—Marcus Mashburn, Sr., Cumming  
 Secretary-Treasurer—Courtney C. Brooks, Cumming  
 Delegate—Marcus Mashburn, Sr., Cumming  
 Alternate Delegate—Courtney C. Brooks, Cumming

*Fulton County Medical Society*

President—R. Hugh Wood, Atlanta  
 President-Elect—W. W. Daniel, Atlanta  
 Vice-President—Fred F. Rudder, Atlanta  
 Secretary-Treasurer—McClaren Johnson, Atlanta  
 Delegates: R. Hugh Wood, W. W. Daniel, McClaren Johnson, H. Walker Jernigan, A. O. Linch, Mark S. Dougherty, Jr., Edgar H. Greene, J. G. McDaniel, Philip H. Nippert, and Eustace A. Allen.

*Gordon County Medical Society*

President—W. D. Hall, Calhoun  
 Secretary-Treasurer—R. D. Walter, Calhoun  
 Delegate—W. D. Hall, Calhoun

*Grady County Medical Society*

President—A. B. Reynolds, Cairo  
 Secretary-Treasurer—J. V. Rogers, Cairo

*Hall County Medical Society*

President—Jesse L. Meeks, Gainesville  
 Vice-President—W. R. Garner, Gainesville  
 Secretary-Treasurer—H. H. Lancaster, New Holland  
 Delegate—C. D. Welch, Gainesville  
 Alternate Delegate—B. B. Davis, Gainesville  
 Board of Censors: R. L. Rogers, E. W. Grove and L. G. Neal.

*Hancock County Medical Society*

President—Horace Darden, Sparta  
 Secretary-Treasurer—H. L. Earl, Sparta  
 Delegate—C. S. Jernigan, Sparta  
 Alternate Delegate—Jorn D. Wiley, Sparta

*Henry County Medical Society*

President—H. C. Ellis, McDonough  
 Vice-President—R. V. Brandon, McDonough  
 Secretary-Treasurer—A. W. Carter, Jr., McDonough  
 Delegate—R. V. Brandon, McDonough

*Jefferson County Medical Society*

President—J. J. Pilcher, Wrens  
 Secretary-Treasurer—J. W. Pilcher, Louisville  
 Delegate—C. Roy Williams, Wadley

*Jenkins County Medical Society*

President—William G. Simmons, Sylvania  
 Vice-President—A. P. Mulkey, Millen  
 Secretary-Treasurer—John B. Rabun, Millen

*Lamar County Medical Society*

President—D. W. Pritchett, Barnesville  
 Vice-President—John B. Crawford, Barnesville  
 Secretary-Treasurer—S. B. Traylor, Barnesville  
 Delegate—J. H. Jackson, Barnesville

*South Georgia Medical Society*

(Berrien-Clinch-Cook-Echols-Lanier and Lowndes)

President—J. F. Mixson, Valdosta  
 Vice-President—Earle V. McKey, Jr., Valdosta  
 Secretary-Treasurer—Robert L. Stump, Jr., Valdosta  
 Delegate—E. Harry Mixson, Valdosta  
 Alternate Delegate—Robert E. Perry, Jr., Valdosta  
 Board of Censors: D. L. Burns, Joyce F. Mixson, Jr.,  
 and T. C. Williams.

*Macon County Medical Society*

Secretary-Treasurer—Thos. M. Adams, Montezuma

*Jackson-Barrow Medical Society*

President—A. B. Russell, Winder  
 Secretary-Treasurer—W. Q. Randolph, Winder

*Monroe County Medical Society*

President—S. D. Work, Jr., Forsyth  
 Secretary-Treasurer—A. W. Bramblett, Jr., Forsyth  
 Delegate—S. D. Work, Jr., Forsyth

*Montgomery County Medical Society*

Secretary-Treasurer—J. W. Palmer, Ailey

*Muscogee County Medical Society*

President—Arthur N. Berry, Columbus  
 Vice-President—F. D. Edwards, Columbus  
 Secretary-Treasurer—C. C. Butler, Columbus  
 Delegate—F. D. Edwards, Columbus  
 Alternate Delegate—W. P. Jordan, Columbus  
 Board of Censors: Frank B. Schley, Dave Berman,  
 and J. L. Stapleton.

*Rabun County Medical Society*

President—J. C. Dover, Clayton  
 Secretary-Treasurer—J. A. Green, Clayton  
 Delegate—J. C. Dover, Clayton  
 Alternate Delegate—J. A. Green, Clayton

*Randolph-Terrell Medical Society*

President—John T. Arnold, Parrott  
 Vice-President—Walter D. Martin, Shellman  
 Secretary-Treasurer—W. G. Elliott, Cuthbert  
 Delegate—Walter D. Martin, Shellman  
 Alternate Delegate—Jos. D. Woddial, Lumpkin

*Stephens County Medical Society*

President—Wm. H. Good, Jr., Toccoa  
 Vice-President—Robt. E. Shiflet, Toccoa  
 Secretary-Treasurer—C. L. Ayers, Toccoa  
 Delegate—W. Bruce Schaefer, Toccoa  
 Alternate Delegate—Julian Q. Watters, Toccoa  
 Board of Censors: E. F. Chaffin, Arthur G. Singer, Jr.,  
 and J. H. Terrell.

*Sumter County Medical Society*

President—A. C. Primrose, Americus  
 Vice-President—J. C. Logan, Plains  
 Secretary-Treasurer—R. H. Enzor, Smithville

*Thomas County Medical Society*

President—Frank A. Little, Thomasville  
 Vice-President—Joe I. Palmer, Thomasville  
 Secretary-Treasurer—Kirk Shepard, Thomasville  
 Delegate—Geo. R. Dillinger, Thomasville  
 Alternate Delegate—Kirk Shepard, Thomasville

*Tri-County Medical Society*

(Liberty-Long-McIntosh)

Secretary-Treasurer—O. D. Middleton, Ludowici  
 Delegate—O. D. Middleton, Ludowici  
 Alternate Delegate—I. G. Armistead, Townsend

*Troup County Medical Society*

President—S. C. Rutland, LaGrange  
 Vice-President—W. H. Hadaway, LaGrange  
 Secretary-Treasurer—E. W. Molyneaux, Hogansville  
 Delegate—W. H. Clark, LaGrange  
 Alternate Delegate—Enoch Callaway, LaGrange  
 Board of Censors: Enoch Callaway, and R. S. O'Neal.

*Turner County Medical Society*

Secretary-Treasurer—J. H. Baxter, Ashburn  
 Delegate—J. H. Baxter, Ashburn

*Walker-Catoosa-Dade Medical Society*

President—G. C. Vassey, Rossville  
 Vice-President—C. W. Stephenson, Ringgold  
 Secretary-Treasurer—John P. Hoover, Rossville  
 Delegate—Fred H. Simonton, Chickamauga  
 Alternate Delegate—D. M. Cornett, LaFayette  
 Board of Censors: J. S. Alsobrook, C. W. Stephenson,  
 and R. C. Shepard.

*Washington County Medical Society*

President—N. J. Newsom, Sandersville  
 Vice-President—Emory G. Newsome, Sandersville  
 Secretary-Treasurer—William Rawlings, Sandersville  
 Delegate—R. L. Taylor, Davisboro  
 Alternate Delegate—N. Overby, Sandersville  
 Board of Censors: O. D. Leonard, B. F. Rawlings, and  
 O. L. Rogers.

*Wilcox County Medical Society*

President—J. A. Bussell, Rochelle  
 Vice-President—V. L. Harris, Rochelle  
 Secretary-Treasurer—J. D. Owens, Rochelle  
 Delegate—J. M. Estes, Abbeville  
 Alternate Delegate—J. D. Owens, Rochelle

*Worth County Medical Society*

Secretary-Treasurer—Gordon S. Sumner, Sylvester  
 Delegate—J. L. Tracy, Sylvester

## HEALTHGRAMS

Although vaccination against tuberculosis with BCG (Bacillus Calmette Guerin) has never been unanimously accepted, there is increasing evidence that the procedure is of value, particularly in areas where tuberculosis is associated with a high mortality. J. D. Wassersug, M.D., N. E. Jour. Med., Aug. 15, 1946.

There are great benefits to the public in the early diagnosis and cure of tuberculosis. The spread of the disease from persons with positive sputum to their families and friends and the community is avoided, and a health hazard of first importance is controlled. The shorter hospitalization period required for minimal cases means that care is effected at a lower cost. Furthermore these patients often adjust themselves economically, and public expenditures for them and their families are thereby definitely lowered.

The practicing physician is an extremely valuable case-finding agent, since he is in a position to discover a vast number of persons with tuberculosis. Indeed, a large portion of patients see him before anyone else. These opportunities for diagnosis are particularly significant at this time, since war, as always, has increased the incidence of tuberculosis. I. D. Bobrowitz, M.D. and Ralph E. Dwork, M.D., N.E. Jour. Med., Jan. 11, 1946.



## NEWS ITEMS

*Official Call to the Officers, Fellows and Members of the American Medical Association:* The ninety-sixth annual session of the American Medical Association, which will celebrate its centennial year, will be held in Atlantic City, New Jersey, from Monday, June the ninth to Friday, June the thirteenth, Nineteen hundred and forty-seven. The House of Delegates will convene on Monday, June the ninth. The Scientific Assembly of the Association will open with the General Scientific Meetings held on Monday, June the ninth at 2 P. M. The General Meeting at which the President will be installed will be held on Tuesday, June the tenth at 8 P. M. The various sections of the Scientific Assembly will meet Wednesday, June the eleventh at 9 A. M. and at 2 P. M., and subsequently according to their respective programs.

HARRISON H. SHOULDERS, *President*

R. W. FOUTS, *Speaker*, House of Delegates.

Attest:

GEORGE F. LULL, *Secretary*

Chicago, Illinois, March the fifteenth

\* \* \*

Dr. H. T. Adkins, Americus, commissioner of health for Sumter County, has resigned to accept the position of medical director of the Southeastern Health Region, with headquarters at Waycross.

\* \* \*

The Bibb County Medical Society held its regular meeting at Ridley Hall, Macon, March 4. Program: "Treatment of Vascular Injuries in World War II" Dr. C. H. Richardson, Jr., in charge. Dr. A. M. Phillips, secretary.

\* \* \*

Dr. Abe J. Davis, Augusta, has been named chairman of the special groups' committee of this year's Red Cross fund drive. Mrs. Olive Barbin will serve as his vice-chairman. Special groups include city, county, state and federal government agencies and the University Hospital. Their quota is \$2,000 in the campaign for \$58,000 in Augusta.

\* \* \*

Dr. William W. Bryan, Atlanta, announces the removal of his offices to suite 255, The Doctors Building, 490 Peachtree Street, N.E., Atlanta. Practice limited to diagnostic and therapeutic radiology.

\* \* \*

Dr. Carl C. Aven, Atlanta, recently spoke on the "Fundamental Need of Public Health" at the Dawson Rotary Club. Dr. Aven said, "The greatest need we have in public health today is the education of the people."

\* \* \*

Dr. Wade H. Baggs, Jr., Camilla, recently received his discharge from the U. S. Army Medical Corps, and accepted the position as resident physician at the Archbold Memorial Hospital, Thomasville.

\* \* \*

Dr. Charles G. Bellville, formerly of Attapulgus, recently discharged from the Medical Corps of the U. S. Navy and finishing his post-graduate training at Emory University Hospital in surgery, has entered into association with Dr. George L. Epps, Bainbridge Hospital, Bainbridge.

\* \* \*

Dr. Frank K. Boland, Atlanta, has been appointed chairman of the Atlanta activities of the American Society Hygiene Association's current "Stamp-Out Venereal Disease" campaign. The campaign is part of a national drive to finance a greatly expanded program of action against venereal diseases reportedly now spreading "alarmingly" throughout the nation. Dr. Boland will direct the drive in Atlanta and neighboring communities.

Dr. James Burdine, Blue Ridge, recently discharged from the U. S. Army after serving two years as orthopedic and general surgeon, is associated with his brother, Dr. Winston Burdine, Burdine Hospital, Blue Ridge.

\* \* \*

Dr. Holloway Bush, who served as a member of the Army Medical Corps for five years in World War II, announces the opening of his office for the general practice of medicine, 318-19 Bibb Building, Macon.

\* \* \*

Dr. Ernest F. Daniel, Jr., Millen, recently released from the Medical Corps of the United States Navy, having served in the South Pacific, is now associated with Dr. Steve P. Kenyon, Dawson, in the practice of medicine.

\* \* \*

The Georgia Medical Society held its regular meeting at the society's hall, 612 Drayton Street, Savannah, March 11. Subject: "A Review of the Blue Cross Hospitalization Plans of the United States" by Mr. Harold Cooledge, Atlanta. Dr. G. H. Johnson, Jr., secretary.

\* \* \*

Dr. E. Leonard Graydon, Atlanta, announces the removal of his office from 157 Forrest Avenue to 663 West Peachtree Street, suite 401, Atlanta, for the general practice of medicine.

\* \* \*

Dr. W. C. Hathcock, Atlanta, formerly located at 410 Medical Arts Building, announces the re-opening of his offices and the continuation of the practice of the late Dr. B. McH. Cline, suite 402-4 Grand Theatre Building, Atlanta.

\* \* \*

Dr. Worth Hobby, Atlanta, announces the removal of his office to 325 Doctors Building (new annex) 490 Peachtree St., N.E., Atlanta. Practice limited to diseases of the chest.

\* \* \*

The Fulton County Medical Society and the American Götter Association held a joint dinner meeting at the Academy of Medicine, Atlanta, April 3. Scientific program: "Studies of Thyrotoxicosis," Dr. Arnold Jackson, Madison, Wisconsin; "Traditions in Surgery," Dr. John Hertz, Copenhagen, Denmark.

\* \* \*

The Georgia Eye, Ear, Nose and Throat Society held its annual meeting at the Academy of Medicine, Atlanta, April 11 and 12. Dr. Ralph T. Lloyd, Brooklyn, N. Y., Dr. Francis E. LeJeune, New Orleans, La., Dr. Daniel B. Kirby, New York City, Dr. A. Gilbert Silver, Brooklyn, N. Y., and Dr. Jas. Morrisset Smith, New York City, were the guest speakers. Officers: Dr. W. O. Martin, Jr., Atlanta, president; Dr. C. K. McLaughlin, Macon, secretary; committee: Dr. W. O. Martin, Jr., Dr. C. K. McLaughlin, Dr. B. Russell Burke and Dr. Calhoun McDougall.

\* \* \*

Dr. Steve P. Kenyon, Dawson, president-elect of the Medical Association of Georgia, recently addressed the Ninth District Medical Society of the Medical Association of Georgia at Toccoa. Dr. Kenyon spoke on "Some Problems of Organized Medicine."

\* \* \*

Dr. John L. Jacobs, Atlanta, announces the removal of his office to 151 Doctors Building, 478-90 Peachtree Street, N. E., Atlanta. Practice limited to allergy.

\* \* \*

The Georgia Medical Society held its regular meeting at the society's hall, 612 Drayton Street, Savannah, March 25. Discussion: "The Establishment of a Cancer Detection Clinic" by Dr. J. L. Campbell, Atlanta, director of the Atlanta Cancer Detection Clinic, and Dr. W. J. Murphy, Atlanta, director of the State Cancer Control program.

Dr. H. M. Lee, Hamilton, has been elected county physician of Harris County, by the board of county commissioners, and has accepted the position. These services will supplement his private practice, which continues as in the past.

\* \* \*

Dr. J. M. Martin, Augusta, recently discharged from the U. S. Army Medical Corps, has opened offices at 407 Greene Street, Augusta, for the practice of medicine.

\* \* \*

Dr. Shannon Mays, Macon psychiatrist, speaking recently to the Jones County Kiwanis Club, Gray, asserted that mental illness is one of the outstanding illnesses that medicine must consider today. He stated that "54 per cent of the hospital beds in America are occupied by insane people."

\* \* \*

Dr. J. W. McFarlane, formerly of Detroit and Atlanta, announces the opening of his office in the Clinic Building of Ritch-Leaphart Hospital, Jesup. Practice limited to the eye, ear, nose and throat diseases.

\* \* \*

Dr. J. B. Neighbors, Jr., Athens, has been awarded membership in the American Board of Internal Medicine.

\* \* \*

The Ocmulgee Medical Society met at the clinic of Dr. R. L. Smith, Cochran, March 14. Dr. A. S. Batts, Hawkinsville, president, presided. Delegates to the annual meeting of the Medical Association of Georgia were elected: Dr. James L. Thompson, Eastman, delegate, and Dr. A. R. Bush, Hawkinsville, alternate delegate. Paper: "Rh Factor" by Dr. W. K. Jordan, Macon. The next meeting will be held at Eastman, June 13.

\* \* \*

Dr. Walter W. Otto, Savannah, new assistant city and county health officer, will be in charge of the follow-up survey of the mass testing for tuberculosis conducted some months ago. Dr. Clair A. Henderson, health officer, announced.

\* \* \*

Dr. Arthur M. Pruce, Atlanta, has opened offices for the practice of physical medicine at 663 West Peachtree Street, N. E., Atlanta. Physical therapy and fever therapy.

\* \* \*

The Blue Ridge Medical Society met at the home of Dr. E. W. Watkins, Ellijay, March 7. The following members were present: Dr. E. W. Watkins, Dr. W. E. Burdine, Dr. James F. O'Daniel, Dr. Thos. J. Hicks, and Dr. W. C. Chastain. Dr. J. M. Burdine, Blue Ridge, was elected as a new member. The following officers were elected: President, Dr. W. E. Burdine; Vice-President, Dr. Thos. J. Hicks; Secretary-Treasurer, Dr. James F. O'Daniel; Delegate, Dr. Thos. J. Hicks; Alternate delegate, Dr. John O'Daniel.

\* \* \*

Dr. W. P. Rhyne, Albany, announces the removal of his offices to the Medical Building, 403 Broad Avenue, Albany. Practice limited to the diseases of the eye, ear, nose and throat.

\* \* \*

Dr. Joseph S. Skobba, Atlanta, announces the removal of his office to 153 Doctors Building, North Unit, 478-90 Peachtree Street, N. E., Atlanta. Practice limited to psychiatry, with particular attention to the psychoneuroses.

\* \* \*

The Southeastern Section of the American Urological Association held its eleventh annual meeting at the Whitehall Hotel, Palm Beach, Florida, March 26-29. The 1947-1948 officers are: President, Dr. Robert B. McIver, Jacksonville, Fla.; President-elect, Dr. Harold P. McDonald, Atlanta, Ga.; Past President, Dr. Hubert K. Turley, Memphis, Tenn.; Secretary-Treasurer, Dr. Russell B. Carson, Ft. Lauderdale, Fla.

Dr. John K. Stalvey, Jr., Savannah, recently discharged after serving as a surgeon for three and a half years with the U. S. Public Health Service, stationed at the Marine Hospital, announces the opening of his office for the practice of medicine and surgery, particularly chest surgery, 110 East Taylor Street, Savannah.

\* \* \*

Dr. G. B. Timberlake, Atlanta, announces his return to offices at 322 Candler Building, Atlanta, where he will continue the practice of industrial and orthopedic surgery, having served during the past three years in the orthopedic surgical section of the Army of the United States.

\* \* \*

Dr. C. D. Whelchel, Gainesville, recently resigned as a member of the Hall County Board of Health. He has served as county health officer since the establishment of the board. Dr. Whelchel's accomplishments during his tenure of office include his efforts to insure the adoption of the Ellis Health Law for Hall County in 1915.

\* \* \*

Dr. Maxwell K. Willoughby, formerly of Kings Ferry, N. Y., announces the opening of his office for the practice of medicine at 706 First Avenue, Tybee Island. He will also serve as city physician.

\* \* \*

Dr. Richard Wilson, Atlanta, announces the removal of his office to 133 Doctors Building, 490 Peachtree Street, N. E., Atlanta. Neurology.

\* \* \*

Dr. James I. Weinberg, Atlanta, announces the removal of his offices to 128 Doctors Building, 490 Peachtree Street, N. E., Atlanta. Practice limited to internal medicine.

#### DO YOU KNOW?

Do you know that the Georgia Medical Society (Chatham County) was organized in 1804, and that it is one of the oldest medical societies on this continent?

Do you know that the Richmond County Medical Society (Augusta) was organized a few years later, and that Augusta has maintained throughout the years its fine medical record?

Do you know that the Central Medical Society was organized a few years later, at Milledgeville, and that its short life ended prematurely, probably because its sponsors did not at that time realize the need for a state-wide medical organization?

Do you know that the Medical Association of Georgia was organized and began to function at Macon in 1849, and that one of your most valuable assets today is membership in this organization?

#### IMPORTANT NOTICE

The American Medical Association will hold its centennial session in Atlantic City, N. J., June 9-13, 1947.

All members of the Medical Association of Georgia whose plans include attendance at this important meeting should do two things immediately: First, be sure to procure hotel accommodations in Atlantic City. If you do not have a reservation, write Dr. Robert A. Bradley, Chairman, Subcommittee on Hotels, 16 Central Pier, Atlantic City, N. J. Second, each member should carry with him, or her, membership cards, both in the Medical Association of Georgia and in the American Medical Association.



## OBITUARY

*Dr. Lisbon C. Allen*, aged 85, prominent Hoschton physician and surgeon, and founder of the Allen Hospital, died March 6, 1947. Born in Forsyth County, he was the son of the late John Fisher Allen and Amanda Gober Allen. He graduated from the University of Georgia School of Medicine, Augusta, in 1888, and began the practice of medicine in Jackson County the same year. He was a member of the Jackson-Barrow Counties Medical Society, the Medical Association of Georgia, and of the Methodist Church. He served as president of the Bank of Hoschton, was chairman of the welfare board of Jackson County for many years, and was chairman of the building committee of Alto Sanatorium. Dr. Allen also served seven terms in the Legislature as representative from Jackson County, and was active in civic affairs. He first married Miss Alice Bartlett, Augusta, and after her death he married Miss Isabel Canning, Flowery Branch, who survives him; also he is survived by a son, Dr. M. B. Allen, Hoschton; two daughters, Miss Myrtice Allen, Hoschton, and Mrs. Phil H. Dohn, Atlanta, and five grandchildren. Funeral services were held at the Allen Hospital, Hoschton, with the Rev. Will Jones and the Rev. G. L. Roper officiating. Members of the Jackson-Barrow Counties Medical Society and a number of old friends served as honorary escort. Burial was in Hoschton Cemetery.

\* \* \*

*Dr. Henry Grady Banister*, aged 56, Ila physician for 26 years, died March 2, 1947, at Clearwater Beach, Florida, after an illness of eight months. Dr. Banister was a native of Cumming, and was graduated from Emory University School of Medicine, Atlanta, in 1916. He served with distinction in the United States Army of World War I. Returning from service he began the practice of medicine at Ila, where he was universally admired. He was a member of the Clarke-Madison-Oconee Counties Medical Society, the Medical Association of Georgia, and the Ila Baptist Church, and served for many years as a deacon of his church. He was a Mason, and also took an active interest in the American Legion's work. He is survived by his wife, Mrs. Eleanor Estes Banister, Ila; two sons, Henry Grady Banister, Jr., Atlanta, and Royce Banister, a student at Emory College, Oxford. Funeral services were held from the Ila Baptist Church, with Rev. Alton Morris officiating. An honorary escort included members of the Clarke-Madison-Oconee Counties Medical Society, Madison County Post of the American Legion, and the deacons of the Ila Baptist Church. Burial was in the cemetery at Gay, Ga.

\* \* \*

*Dr. Albert H. Cochran*, aged 73, Atlanta physician and civic leader, died unexpectedly at his home, 1292 Gordon St., S. W., March 5, 1947. He was a native of Banks County and graduated from the University of Georgia School of Medicine, Augusta, in 1897. He began the practice of medicine in Banks County, and moved to Atlanta in 1901. He was a Mason, and an active member of the Park Street Methodist Church, where he served as steward. Besides his wife, he is survived by a daughter, Mrs. W. J. Haynes, Atlanta, a son, Dr. A. H. Cochran, Jr., White Plains, N. Y., three sisters and four grandchildren. Funeral services were held from the Park Street Methodist Church, with Dr. Fred Glisson officiating. Burial was in West View Cemetery, Atlanta.

\* \* \*

*Dr. Emmett G. Colvin*, aged 70, well-known Henry County physician, died in an Atlanta hospital after a long illness, February 27, 1947. Dr. Colvin was a native of Locust Grove and graduated from the Georgia College of Eclectic Medicine and Surgery, Atlanta, in 1899. He returned to his home in Locust Grove and had practiced medicine there for the past 45 years. He was a well-

known figure in Henry County and was an active worker in the Locust Grove Baptist Church and in his Masonic lodge. He was an honorary member of the Henry County Medical Society and the Medical Association of Georgia. Dr. Colvin is survived by his wife; three sons, Dr. E. D. Colvin, Atlanta; C. N. Colvin and H. M. Colvin, both of Locust Grove; one daughter, Mrs. D. W. Hogan, Dublin; three brothers, Dr. J. T. Colvin, Jesup, Dr. E. S. Colvin, Atlanta, and Andrew Colvin, Waco, Texas. Funeral services were held at the Locust Grove Baptist Church, with the Rev. P. M. Acker officiating. Burial was in the churchyard, Locust Grove.

\* \* \*

*Dr. Samuel Harwell Dillard*, aged 86, died at his residence, 9 Lorraine Drive, Brookhaven, after a long illness, March 16, 1947. Dr. Dillard was graduated from the Atlanta Medical College, now Emory University School of Medicine, Atlanta, in 1883. He began the practice of medicine in Union Point, and came to Atlanta in 1911. He retired in 1936. He was a member of the Brookhaven Methodist Church and the Masons. Surviving are his wife; a daughter, Mrs. M. M. Neel, Atlanta; four sons, Dr. R. B. Dillard, Decatur; Dr. J. A. Dillard, Columbia, S. C.; Samuel H. Dillard, Jr., Detroit, Mich., and the Rev. H. H. Dillard, Hartwell; two sisters, Mrs. John R. Lewis, Sr., Sparta, and Mrs. W. F. Dunlap, Chipley; a brother, Dr. J. B. Dillard, Davisboro; 14 grandchildren and 7 great-grandchildren. Funeral services were held at Spring Hill, Atlanta, with the Rev. John Maxwell officiating. Burial was in West View Cemetery, Atlanta.

\* \* \*

*Dr. Arthur D. Knott*, aged 71, prominent Camilla physician, died of a cerebral hemorrhage in a Thomasville hospital, March 19, 1947. Dr. Knott was born at Belton, Texas, and graduated from Vanderbilt University School of Medicine, Nashville, Tenn., in 1900. After serving three years in the Medical Department of the U. S. Army, he later received his degree of Doctor of Public Health from Johns Hopkins University School of Medicine, Baltimore, Md. He was a member of the Mitchell County Medical Society, the Medical Association of Georgia, the Camilla Methodist Church, and was a Mason. Dr. Knott had served as Mitchell County Health Commissioner since 1945. Surviving is his wife, the former Miss Estelle Stanford, Smithville, and one daughter. Funeral services were held from the Camilla Methodist Church, with the pastor, Rev. Charles A. Britton, officiating. Burial was in Oak Grove Cemetery, Americus.

\* \* \*

*Dr. Linton Yancey Pittard*, aged 60, prominent Monticello physician, and his wife, burned to death in a fire which destroyed their home, February 14, 1947. Dr. Pittard graduated from the St. Louis University School of Medicine, St. Louis, Mo., in 1912. He was a member of the Jasper County Medical Society and the Medical Association of Georgia. Dr. and Mrs. Pittard are survived by two daughters, and two sons, L. Y. Pittard, Jr. and John Pittard, both students at the University of Georgia School of Medicine, Augusta.

\* \* \*

*Dr. Leatus Sanders*, aged 73, Commerce physician, died at his home after an extended illness, March 16, 1947. He graduated from the University of Georgia School of Medicine, Augusta, in 1897. Dr. Sanders had practiced medicine and surgery in Jackson County for more than 49 years. Survivors are four daughters, Miss Julia B. Sanders, Tampa, Fla.; Miss Mary Sanders, Clayton; Miss Ruth Sanders, Marietta, and Mrs. Gunter Stephenson, Winter Haven, Fla.; two sisters, two brothers, and two grandchildren. Funeral services were held at the First Baptist Church, Commerce. Burial was in Grey Hill Cemetery, Commerce.



# *THE JOURNAL* OF THE *MEDICAL ASSOCIATION OF GEORGIA*

PUBLISHED MONTHLY under direction of the Council

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No. 5

## MEDICINE: ITS PROBLEMS AND THEIR SOLUTIONS

RALPH HILL CHANEY, M.D.

*Augusta*

To come before you expressing the problems which confront medicine, and to offer solutions for these problems, may well be likened to the individual who insists on carrying coal to Newcastle, because each of you should be as aware as I of the problems which confront us, and each of you has an equal right to believe that your method of solving these problems is just as good as any solution which I may be able to formulate. Nonetheless, it sometimes may be proper to carry coal to Newcastle, or to carry steel to Pittsburgh, or even to suggest solutions to fellow members of the medical profession. By so doing the locality in which the product is most commonly manufactured be made more sharply aware of its own deficiencies, the sooner to correct them. In the news items of the last few days it has been reported that the coal production in England for the first quarter of the present year has exceeded that of any previous year and may reach an all-time high. Some commentators have hinted that the suggestion that American coal to be taken to England had a great deal to do with the increase in production of coal in England itself, where coal production has been a basic industry for centuries. So to bring our common problems before you will not be amiss

if what I say contributes to an increased interest in their solution.

If any single factor is at fault with the members of the medical profession it is that they are so individualistic in their ideals they never see catastrophe until it strikes home. Then it is frequently impossible to provide a cure for the calamity, although the remedy might have been very simple.

However, before considering any of the particular problems confronting the medical profession and demanding their solution, I want to call your attention to the fact that the endeavor on the part of some individuals to bring medical practice under governmental bureaucratic control is not simply an isolated event but stems from a very definite theory of government. My belief is that the recent past and present endeavor to bring medicine under the rigid control of the government is only another evidence of a basic conflict which is hindering an early solution of the problems arising between former allies. It is a part of the struggle between dynamically opposed theories of government. It is a struggle between those who hold that government should be of the people, for the people and by the people, and those who hold that government should be in the hands of a single individual or of a small group of individuals who shall direct, regulate and control the lives of the remainder, a system in which the ordinary citizen is simply one of a common herd destined to travel down a predetermined pathway without individuality or individual responsibility. It is the struggle between democracy as represented in this

country by freedom of action, freedom of opportunity, and freedom of purpose—now commonly known as capitalism—on the one hand; and on the other hand as some form of socialistic government, of which various types have existed for many years, such as collectivism in France, state socialism in Germany, and Bolshevism in Russia. Webster in his dictionary defines socialism as “A political and economic theory of social organization based on collective or governmental ownership and democratic management of the essential means for the production and distribution of goods; also, a policy or practice based on this theory. Socialism aims to replace competition by cooperation, and profit-seeking by social service, and to distribute income and social opportunity more equitably than they are now believed to be distributed. These aims have given rise to many distinct schools.” State socialism is further defined as “A form of socialism prevalent in Germany and Great Britain, which advocates utilizing the power of the state to equalize income and opportunity by measures such as progressive income and inheritance taxes and compulsory insurance against old age, unemployment, sickness, and accident, and by state administration of industries, public utilities, common carriers, banking, housing and the like.” Thus, by definition, compulsory insurance, and sickness insurance are among the measures utilized by the state to equalize income and opportunity in countries having a socialistic form of government. Compulsory insurance was an essential part of the fiscal and regulatory machinery devised by Bismarck’s economic adviser, and was acclaimed as the “high water mark of state socialism.” In Moscow today the various members of the Foreign Ministers Conference are endeavoring to agree on terms which will make for prolonged peace in Germany. In viewing this situation as it unfolds itself in the con-

ference, Americans are inclined to believe, and often-times think, that our point of view should readily be accepted by everyone, and we are often-times scornful when someone else presents another point of view. The differences which are arising in the conference in Moscow are as fundamentally different as the differences which exist between organized medicine on the one hand, and the multiplicity of social privilege workers on the other hand—those who are endeavoring to advance socialized or state medicine in the belief that it is the sole means of providing adequate medical care to the body of people existing in this country.

My forefathers came to this land seeking a location where they could have freedom of opportunity, freedom of speech, freedom of worship and freedom from want. In cooperation with your forefathers they built a country where opportunity and advancement were dependent upon ability, honesty, foresight and hard work rather than upon inheritance, vested privilege or socialized control. Under this system they extended the frontiers of this country across the continent from ocean to ocean and made the most powerful nation in the world. Simultaneously agriculture, industry and the professions developed and flourished, each adding to its quota to the upbuilding of the whole and making it a mecca which untold thousands reached, and which other untold thousands still hope to reach in order to attain a better life than their native homelands can afford.

In the process of these great developments medicine has met and successfully solved many problems without governmental aid. In the early days education was one of the great problems and it was necessary for anyone aspiring to be a physician to seek his education in England or in Scotland; or later, in Germany. However, responding to

this need in our young country, local medical schools sprang up—Harvard, Pennsylvania, and later the great state universities—and our professional training began to approach that of Europe. Then, unfortunately, as a result of the rapid growth of this young country a large group of proprietary schools came into being and medical education dropped in quality, although the quantity rose to unprecedented levels. Did this situation require correction by governmental interference? No. The American Medical Association itself set up standards and, by securing cooperation of the various state examining boards, enforced these standards, and the proprietary schools became a thing of the past. Today the excellence of the training which our young physicians receive is recognized the world over and its quality was demonstrated by the the care and the recovery rates evident in the American Army during the recent world war.

The major problem confronting medicine at the present time is that of proper distribution of medical care to all individuals. I think that all, whether laymen or physicians, recognize that there has been a definite failure as to proper distribution of physicians, especially in rural communities. This is largely the result of the circumstance that as the older physician retired, or more commonly died, there was no younger man at hand to take his place. The older physician, because of his period of training and because knowledge and specialized technics had not advanced to their present levels, was able and obliged to carry in his head and in his handbag the major equipment necessary for his practice and was, despite the rise of newer methods of medical practice, able to establish a following which remained loyal to him throughout his years of practice until his retirement or his death. Thus the younger man locating in the same community could

find nothing to work with save those things which he, like his predecessor, could carry in his head or in his handbag. Consequently he could not utilize the advantages of the laboratory with its x-ray, chemical and pathological assistance, and either had to pick up and migrate to some larger center providing these facilities; or, if he stayed put, was compelled to practice a grade of medicine well below his ability and more advanced training. This is bad enough in itself. But still worse, he was not uncommonly looked down upon by his fellow citizens who were wont to assume that if he were much good he would not remain. So with better roads and more automobiles, the rural citizen jumps in his Ford or Jeep and rolls away to some larger, neighboring community where likely as not he picks out a physician no more capable than the young doctor in his home community, but one who has the advantages of hospital and laboratory facilities which the home physician has not. Obviously the solution to this problem is not compulsory health insurance or regimentation of doctors but the proper distribution of hospital and clinic facilities. If we make hospitals and their facilities easy of access to all the people, with proper clinic facilities in relation to them as feeders, the maldistribution of young doctors will solve itself. Just as soon as good clinical and hospital facilities are placed within the reach of able young men, many will be found who are willing to practice in the smaller communities and will naturally migrate to those localities. The large city has little to offer the younger man entering medicine except its hospital and school facilities. This is the reason why the American Medical Association sponsored the Hill-Burton Hospital Construction Bill, which, if its purposes are ultimately fulfilled, will make proper clinic and hospital services



accessible to every individual throughout this entire nation.

No discussion of the political problems which confront medicine today would be complete without evaluating the trends which lie behind the various Wagner-Murray-Dingell bills which have been presented to the Congress of the United States since 1943. Three critical periods exist in the history of the nationalization movement in this country, for the first of which we have to go back to the period between 1911 and 1925 when the earliest social insurance laws were passed in the United States. This period was one of diffuse effort, but during that time in America ten states enacted workmen's compensation laws, and in England Lloyd George, against great opposition, succeeded in forcing through Parliament the National Insurance Act which brought to Great Britain a scheme of compulsory sickness insurance for wage earners. The successful enactment of this legislation in Britain caused scattered efforts throughout this country to achieve the same end, but public interest was not highly activated, the early reformers were not well organized and the socialization movement languished.

The second period, which dates from 1926 to 1934, was marked by the organization of private groups and the gathering of a sizable body of documentary material on medical economics. This was fostered very materially by Michael Mark Davis, who became director of Medical Service for the Rosenwald Fund in 1928. During the time that Davis was connected with the Rosenwald Fund he helped organize the Committee on the Cost of Medical Care and carried into that movement Isadore Sidney Falk, who has in later years become the inspirational genius behind most of the compulsory medical insurance measures which have been introduced into our Congress. The Committee on the Cost of Medical Care

spent five years' study and, after being ably financed by gifts of nearly \$900,000 from eight foundations, including the Rosenwald Fund, the Milbanks Memorial Fund, the Rockefeller Foundation and the Twentieth Century Fund, was able to publish twenty-eight volumes, the last two of which, "The Cost of Medical Care" and "The Final Report of the Committee" have been the inspirational mainstays of the state medicine propaganda effort. These reports were largely written by Isadore S. Falk, and still are being quoted by the leaders of the movement which favors compulsory health insurance. The statistics of that time, even though now out-of-date, are still being quoted in support of their ideas. However, if we look closely at the reports of that committee we find that after five years of study they did not come out with a majority recommendation for compulsory sickness insurance. Instead, they proposed the promotion of voluntary sickness insurance plans, the expansion of public health services, the coordination of medical services, and the improvement of medical education. During this period from 1926 to 1934 these two leaders, Davis and Falk, did not originate but appropriated, organized, and propagandized a movement which spent upward to two million dollars of private funds to lay the foundations for a powerful propaganda machine which was to sponsor legislation later. Compulsory sickness insurance was one of the main purposes of the Bismarckian laws of social insurance, and its object was to attach the workers of the state and to enable the launching of a new tax program which would raise revenues and at the same time fulfill the purpose of regulated social interference. This interference was designed to redistribute wealth and to regulate the purchasing power of the "lower classes". Compulsory sickness insurance was at first resisted by organized labor, but was later em-

braced by certain national and international groups who apparently were more concerned about minor returns than about freedom. Justification for the imposition of state control of medicine through compulsory sickness insurance legislation was set forth by the International Labor Organization in 1927 in these words: "The modern state, as guardian of public health and national prosperity, considers it both a right and a duty to impose compulsion. Even the devotees of individualism admit that insurance is a social duty, the performance of which the state may, in the general interest, enforce".

The International Labor Organization was set up in Geneva as a result of the Versailles Treaty of 1919, but the United States was denied congressional authority to join. For fifteen years this country officially remained aloof from the organization, but during that period it is apparent from the official record that interested observers were watching every movement made. In 1934 Congress enacted legislation authorizing the President to accept membership for the United States in the International Labor Organization. This legislation was jammed through the Congress during a last minute rush before adjournment on June 18, 1934, in the form of a joint resolution introduced in the Senate and passed on June 13, 1934, without discussion. The companion bill in the House evoked a short, violent blast from Congressman George Holden Tinkham of Massachusetts, who said: "If the House desires to commit the United States to internationalism under the direction and control of propagandists paid with money of foreign interests, then let the House vote for this resolution." Despite lack of public hearings and without any marked or thoughtful consideration, the measure passed the House as a joint resolution June 16, 1934, with a two-thirds' vote, and President Roosevelt

signed the bill June 19, 1934, thereby establishing in the International Labor Organization membership for the United States. Immediately the machinery necessary to bring our Federal laws into conformity with the principles of state socialism as advocated by the International Labor Organization was set in motion. From the point of view of ideological socialism the International Labor Organization, which had been created for the purpose of improving social conditions throughout the world, especially by establishing international standards in regard to hours, wages and conditions of work, developed into an institution of tremendous power. This organization in the first dozen years of its existence was dominated by its director, Albert Thomas, who before accepting the position had been one of the leaders of the French socialist party. Throughout the early formative years the International Labor Organization, when the United States was not a member, had its policies largely shaped by this ardent pioneer of socialism. Thus a man reared in an environment totally different from our own became the leader and fervent crusader of an ideology foreign to the thinking of the majority of the people in the United States of America. This ideology, which finds its highest expression in state socialism, was responsible for the inclusion, among other things, of a commitment on the part of the International Labor Organization's member nations to extend compulsory social insurance, including sickness insurance, as fast as possible through the exertion of pressure on the legislative bodies of those member nations. Thus the United States, on becoming a member of the International Labor Organization in 1934, stepped squarely into the center of an avowedly socialistic set-up and accepted a commitment to the further enactment of social insurance laws as a national goal.

The degree to which socialization is represented by individuals who are now within our government bureaus is well illustrated by the Bureau of Research and Statistics of the Social Security Board, of which Isadore Falk is director. From the time Falk became director of this bureau, with an appropriation of approximately \$80,000 a year, Congress has at his request increased the yearly appropriation to approximately half a million dollars a year.

I have outlined these facts and features in regard to the proponents of compulsory health and medical insurance as a measure of increased social security in order that you may see the degree of inroad which has been made into our government services, and also to indicate the necessity we face of combating such movements.

On the other side of the picture, the American Medical Association has adopted a ten point program which I believe gives a practical definition of all questions which we as a professional group are endeavoring to promote. This program comprises:

1. Minimal standards of nutrition, housing, clothing and recreation as fundamentals to good health.

2. Preventative medical services should be available to all, and should be rendered through professionally competent health departments. Medical care to those unable to provide for themselves should be administered by local and private agencies with the aid of public funds when needed, and preferably by a physician of the patient's choice.

3. Adequate prenatal and maternity care should be made available to all mothers. Public funds, when needed, should be administered by local and private agencies.

4. Every child should be assured proper attention, including scientific nutrition, immunization, and other services essential to infant welfare. Such services are best supplied by personal contact between the mother and the individual physician, but whenever necessary may be provided through child health centers administered locally with the support of tax funds.

5. Health and diagnostic centers and hospitals necessary to community needs are preferably supplied by local agencies. To the extent that such facilities are not otherwise available, aid may be provided by Federal funds under a plan similar to the provisions of the Hill-Burton Bill.

6. Voluntary health insurance for hospitalization and medical care is approved. The principles of such insurance plans should be acceptable to the Council on Medical Service and to authoritative bodies of state medical associations.

7. Medical care to all veterans for service-connected disabilities, including hospitalization, should be provided

preferably by a physician of the veteran's choice, with payment through a plan agreed on between the state medical association and the Veterans' Administration.

8. Research for the advancement of medical science, including a National Science Foundation, is indorsed.

9. Services rendered by volunteer philanthropic health agencies should be encouraged.

10. Widespread education in the field of health, and the widest possible dissemination of information regarding the prevention of disease and its treatment, are necessary functions of all departments of public health, medical associations and school authorities.

In closing, I quote from Dr. Edward J. McCormick: "The doctor, as the priest or minister, has a sacred duty to perform. No government agent, in a democracy, has any right to share the privileged communications which are tendered the physician of the soul or the physician of the body.

"Sixty thousand doctors volunteered their services in World War II and sixty thousand carried the burden night and day on the home front. Nine million young Americans entered the armed services and fought, and many died for individual rights and freedom. We must not now, in false zeal, give away the very things they fought and died for! Let us keep America free!

"Let us give to all equal opportunity, and under no circumstance permit independence to be replaced by dependence. Let us stand forever opposed to false altruism which would weld, from a promised security, chains to shackle forever the people of America."

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#### IMPORTANT NOTICE

The American Medical Association will hold its centennial session in Atlantic City, N. J., June 9-13, 1947.

All members of the Medical Association of Georgia whose plans include attendance at this important meeting should do two things immediately: First, be sure to procure hotel accommodations in Atlantic City. If you do not have a reservation, write Dr. Robert A. Bradley, Chairman, Subcommittee on Hotels, 16 Central Pier, Atlantic City, N. J. Second, each member should carry with him, or her, membership cards, both in the Medical Association of Georgia and in the American Medical Association.



## SURGICAL MANAGEMENT OF ULCERATIVE COLITIS

### *Report of Cases*

LON GROVE, M.D.

EARL RASMUSSEN, M.D.

*Atlanta*

The etiology of ulcerative colitis is not known, but from a statistical study it has been shown that approximately 60 per cent of these patients do very well with medical supervision, while the remaining 40 per cent require surgery, and most of these ultimately require either partial or total colectomy with permanent ileostomy.

An operation as serious as a permanent ileostomy, or as of great magnitude as colectomy, should not be considered except upon clear indication in those cases showing severe complications.

In certain quarters there has been a recent tendency to advise an earlier ileostomy, with the hope that the colon would heal and the fecal current could be re-established. However, the results from trial ileostomies have not been encouraging, and in most of these patients the ileostomies have been permanent and a subsequent colectomy ultimately indicated. We have a patient now who has had a trial ileostomy for approximately three years. The patient's weight and nutrition have been well maintained and there is little evidence of anemia. There is still proof of extensive ulceration, however, and a colectomy may be indicated later.

From experience with 68 cases, Garlock<sup>1</sup> concludes that ileostomy is in no sense a cure for the disease, and that most of these patients require either partial or total colectomy.

If the disease is segmental, involving the left colon and rectum, a transverse colectomy with resection of descending colon and sigmoid and rectum is indicated. If the sigmoid and rectum are free from disease, an ileosigmoidostomy with resection of the diseased portion of the bowel is the operation of choice. In the patient with disease of the entire colon and rectum, permanent ileostomy with complete colectomy including the rectum should be done. In a small group of cases Garlock has removed the colon without the rectum and has found that after a period of time the rectum has healed. After a waiting period of from two to three years, if there has been no recurrence, he has re-established the fecal current by disconnecting the ileostomy and doing an ileosigmoidostomy. Most of these patients have done well. This procedure is not feasible if the rectum is diseased to the point of stricture, or if there is sphincter incontinence.

An appreciation of the pathologic changes of advanced ulcerative colitis in which the bowel is greatly shortened with thickened contracted walls, and with granulating ulcerations of the mucous membranes, suggests the inadequacy of any form of conservative treatment, and indicates partial or total colectomy for permanent cure.

The indications for surgery are (1) prolonged sepsis with cramp-like pains, excessive fluid loss and anemia; (2) persistent hemorrhage; (3) threatened perforation, because if perforation occurs the mortality approaches 100 per cent; (4) anal fistula with sphincter incontinence; (5) ulceration with polypoid degeneration; and (6) acute fulminating ulceration with profound toxemia.

In the four cases here reported ileostomy

<sup>1</sup>Read before the Medical Association of Georgia, Macon, May 10, 1946.



Figure 1a  
Case 1. Rectum and sigmoid colon.

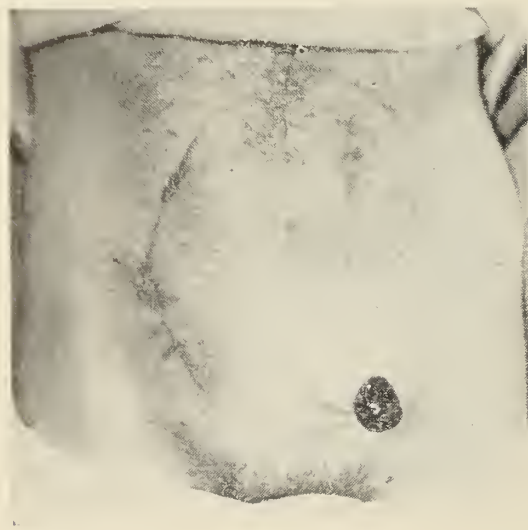


Figure 1b  
Case 1. Ileostomy stoma.

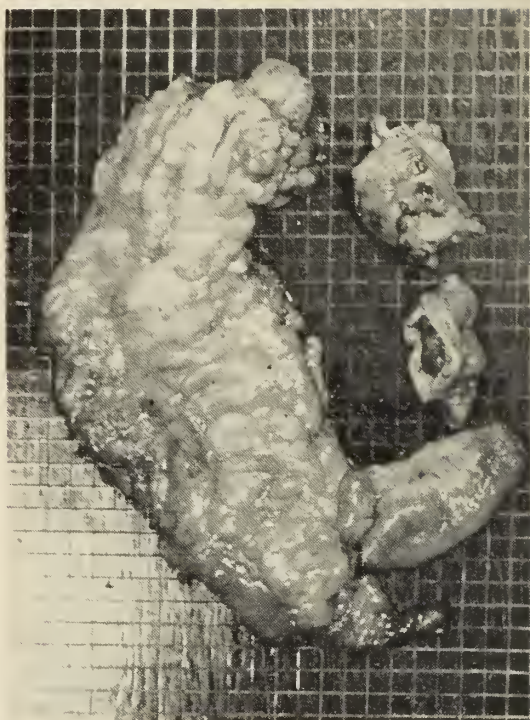


Figure 1c  
Case 1. Ascending colon.



Figure 1d  
Case 1. Ascending colon.

did not control the disease, and the patients continued a downhill course, manifested in Case 1 by a debilitating sepsis with discharge of large amounts of pus, complicated by sphincter incontinence. This com-

pletely incapacitated him for normal activity, and total colectomy became necessary two years after ileostomy, which was done elsewhere.



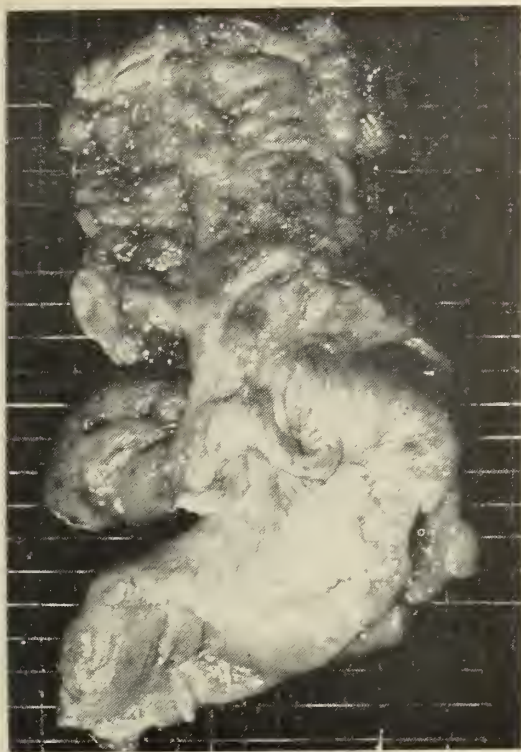


Figure 2a

Case 2. Transverse, descending and upper sigmoid colon.

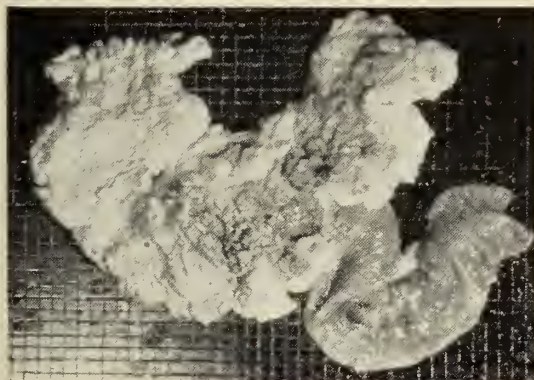


Figure 2b

Case 2. Rectum, lower sigmoid and ileosigmoid anastomosis.

Case 2 at first only showed evidence of the disease in the terminal ileum and right colon, which was complicated by perforation in the terminal ileum with abscess. This required a segmental resection of the terminal ileum and colon, preserving the sigmoid and rectum. This was accomplished by doing an ileosigmoidostomy with resection of the terminal ileum, ascending

transverse and descending colon. One year later there was a recurrence of the disease in the sigmoid and rectum, complicated by sphincter incontinence, which required a permanent ileostomy with resection of the sigmoid and rectum.

Case 3 was complicated by a profound sepsis with recurrent massive hemorrhages. This was not controlled by ileostomy, and total colectomy became mandatory.

In Case 4 total colectomy was indicated because of congenital polyposis with chronic ulceration, sepsis and persistent anemia. The polyps of the rectum and sigmoid were too numerous and confluent to be eradicated by fulguration, and a less radical resection was not feasible because of the danger of a subsequent malignancy.

It is readily appreciated that these patients invariably come to surgery in a greatly debilitated state and, as a result, are notoriously poor risks for surgery of



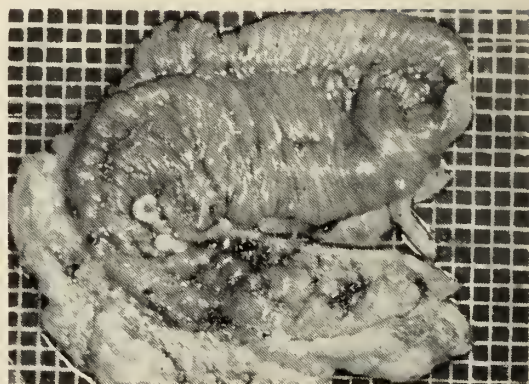
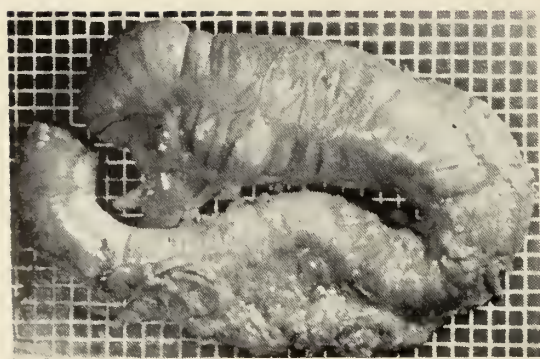


Figure 3a  
Case 3. Ascending and transverse colon.

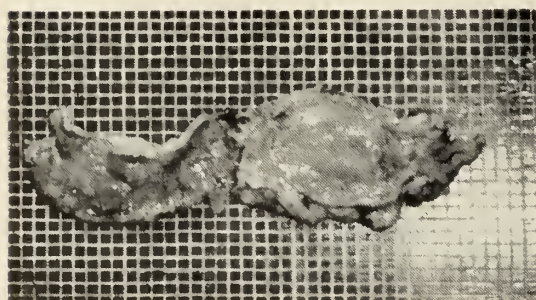


Figure 3b  
Case 3. Rectum and sigmoid colon.

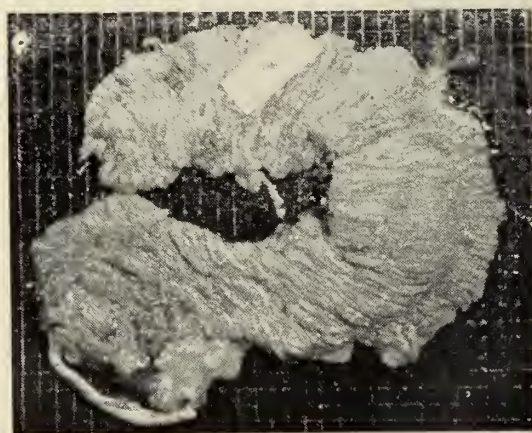


Figure 4  
Case 4. Ascending and transverse colon.

such magnitude which demands a most thorough preoperative preparation and dictates that the resections be done in stages, the first stage usually being an ileostomy. Special attention should be directed towards the mental attitude of these patients. This is of the utmost importance. The main factor in this preparation is the proper appreciation and understanding on the part of the patient of the merits of the Koenig-Rutzen ileostomy bag, because this bag makes it possible for these individuals to lead a nearly normal existence and relieves them of the dread of being objectionable to themselves or to society. We believe this bag will prove to be a definite influence in advising earlier ileostomy in the treatment of ulcerative colitis.

We wish to emphasize here that a single-barrel ileostomy properly constructed functions better, is much less apt to prolapse, and is far preferable to the loop

ileostomy. In fact, the loop ileostomy does not meet the requirements of a good ileostomy, and except in rare circumstances should be discarded. One of the principal requirements of ileostomy is that the bowel and mesentery be divided, and this is not done in the loop ileostomy. The disease spreads by continuity, and unless the bowel and mesentery are completely divided the proximal loop is in danger of invasion. If ileostomy is done for acute fulminating colitis, the greatest care should be taken against trauma to the bowel and as little manipulation as possible should be done. Otherwise, we invite perforation.

The postoperative treatment of patients with ulcerative colitis should be meticulous and the best. They all require supportive measures which should include maintenance

of fluid and protein levels, supplemented by transfusions, vitamins and chemotherapy as indicated. No group of patients needs the close cooperation of the surgeon, internist, and frequently the psychiatrist, more than these.

### REPORTS OF CASES

*Case 1.*—This was a 34 year old man (Jewish race) who was first seen in 1943, at which time he complained of recurrent diarrhea with discharge of large amounts of pus over a period of eleven to twelve years. A diagnosis of chronic ulcerative colitis was made about four years previously and a double-barrel ileostomy in the right lower quadrant was done elsewhere in 1941. He did fairly well for about one year, but one year ago the diarrhea recurred along with a discharge of large amounts of pus, tenesmus, and a few months ago he developed a rectal fistula, and when seen was almost completely incontinent. In addition to these symptoms, he had a 14 inch prolapse of a poorly functioning ileostomy.

A combined abdomino-perineal resection of half of the transverse colon, descending colon, sigmoid and rectum was done as the first stage of a total colectomy. In September 1943 the ileostomy was transferred from the right lower quadrant to the left lower quadrant. In October 1943 the old ileostomy stoma in the right lower quadrant was resected along with the terminal ileum, ascending colon and the remaining half of the transverse colon. The patient's postoperative convalescence was essentially uneventful, and at the present time he is doing well.

*Case 2.*—This was a 44 year old man, (Jewish race) who was first seen in June 1943, with a history of prostrating attacks of chronic ulcerative colitis for six years. When patient was seen in 1943 he had a large inflammatory mass in the right lower quadrant. An ileosigmoidostomy was done, anastomosing the terminal ileum to the lower sigmoid, end-to-side. The patient did quite well for a few months, but in January 1944 symptoms recurred and he was readmitted to the hospital and given four million units of penicillin, but he failed to show any improvement after this therapy. It was then decided that his colon down to the ileosigmoid anastomosis should be resected and in November 1944 resection of the ascending and half of the transverse colon was performed and the remaining open end of the transverse colon was exteriorized. In December 1944 he developed a large ischio-rectal abscess, which was drained, and about a week later a fistulectomy was done. In February 1945 the stoma of the remaining transverse colon was taken down and the remaining transverse, descending and upper sigmoid colons down to the ileosigmoid anastomosis, were resected. Again this patient did quite well for several months, but in July 1946 he again developed a diarrhea with discharge of large amounts of pus, tenesmus and a ran a low-grade fever. In September 1946 a proctoscopic examination revealed large ulcerating lesions of the rectum and lower sigmoid. At this time an ileostomy was set up in the right lower quadrant and a combined abdomino-perineal resection of the remaining sigmoid and rectum was done. The postoperative convalescence was uneventful. He was fitted with a Koenig-Rutzen bag in November 1946 and is now doing well.

*Case 3.*—This patient was a 39 year old male (Jewish race) who was first seen in December 1945, at which time he gave a history of recurrent diarrhea with discharge of large amounts of pus, mucus and blood over a period of eight years during which time he had had intensive medical treatment. An ileostomy was set up in the right lower quadrant in December 1945. In February 1946 the patient returned to the hospital,

having severe and rapidly recurrent hemorrhages from the rectum. One week after admission to the hospital a combined abdomino-perineal resection of descending colon, sigmoid and rectum was done. This latter stage of total colectomy was done first because of the recurrent hemorrhages from the rectum. In April 1946, the terminal ileum, ascending colon, transverse colon and remaining portion of descending colon were resected. Intestinal obstruction developed about three weeks following the last procedure and it was necessary to release a constricting adhesive band at operation. The patient has done quite well since that time and was fitted with a Koenig-Rutzen bag in November 1946.

*Case 4.*—This patient was a 17 year old male, who was first seen in September 1946, at which time he gave a history of intermittent attacks of diarrhea and slight amount of rectal bleeding over a period of thirteen years. He had always been underweight and had been treated for anemia on several occasions in the past. A proctoscopic examination revealed innumerable polyps of the rectum and lower sigmoid, and a barium enema revealed extensive involvement of the entire colon. In October 1946 an ileostomy was set up in the right lower quadrant and the terminal ileum, ascending, transverse and half of the descending colon were resected. In December 1946 an abdomino-perineal resection was done, removing the remaining colon, sigmoid and rectum. This patient was fitted with a Koenig-Rutzen bag in January 1947, is now doing well and has returned to school.

### Summary

To date we have treated six cases of intractable ulcerative colitis without mortality. Four of these have required total colectomy. Another has had a trial ileostomy and at the present time total colectomy is not being considered. In the sixth patient ileostomy has not been advised because medical treatment is sufficient at the present time.

### BIBLIOGRAPHY

1. Garlock, J. H.: New York State J. Med., 45: 1309 (June) 1945.

### AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY TO MEET

The general oral and pathology examinations (Part II) for all candidates will be conducted at Pittsburgh, Pennsylvania, by the entire Board from Sunday, June 1, through Saturday, June 7, 1947. The Hotel William Penn in Pittsburgh will be the headquarters for the board. Formal notice of the exact time of each candidate's examination will be sent him several weeks in advance of the examination dates. Hotel reservations may be made by writing direct to the Hotel William Penn.

Candidates for re-examination in Part II must make written application to the secretary's office not later than April 15, 1947.

Candidates in Military or Naval Service are requested to keep the secretary's office informed of any change in address.

Applications are now being received for the 1948 examinations. For further information and application blanks address Paul Titus, M. D., Secretary, 1015 Highland Building, Pittsburgh 6, Pennsylvania.



## ACUTE OBSTRUCTIONS OF THE COLON

WILLIAM G. WHITAKER, JR., M.D.  
*Atlanta*

The historic background from which the present methods of managing obstructions of the colon have evolved forms an interesting chapter in the history of surgery. Although operations upon the bowel for various types of obstruction are spoken of in ancient times, it was not until 1776 in Rouen that Pillore performed the first successful operation for decompression of the colon. The circumstances surrounding this particular operation are worth mentioning. The patient had obstruction caused by cancer at the rectosigmoid junction and consulted Pillore after cathartics and irrigations had failed to relieve him. Failing in attempts to pass a rectal tube, and against the advice of six of his colleagues, Pillore performed the first cecostomy. The operation was successful and compared favorably with modern methods in the technical management of the procedure. A transverse incision was made in the right lower quadrant; the cecum was opened transversely and sutured to the lips of the wound. It is interesting to note that the patient did well for about two weeks but died at the end of a month because of small bowel obstruction due to the weight and bulk of two pounds of mercury taken before operation. Pillore completed the case report at autopsy by demonstrating the lesion in the rectum and by recovering the mercury.

Left inguinal colostomy was performed by Duret in Brest in 1793; the patient was a three day old infant with an imperforate anus. After much deliberation, and several hasty dissections on cadavers, Duret ignored

his consultants and decompressed the distended bowel by delivering the sigmoid through a left inguinal incision and suturing its mesentery to the skin with two waxed threads. This patient lived to the age of forty-five.

Freer (1815) was the first English surgeon to perform colostomy, and five years later Pring of Bath had acquired sufficient experience to set forth logical conclusions concerning the operations. He felt that colostomy was always applicable in imperforate anus and cancer or strictures of the rectum; that peritonitis was the greatest danger but should not deter the surgeon from the operation; that it was imperative always to open the distended gut; and that cecostomy was indicated for obstructions of the transverse colon<sup>1</sup>.

From the principles laid down by these early surgeons and their followers have evolved the modern methods of diagnosis and surgical treatment of the obstructed colon. A review of the literature on intestinal obstructions reveals that greater emphasis has been placed on problems presented by the small intestine. This finding is even more apparent when attention is directed to the *acutely* obstructed colon. One is struck by the fact that perhaps not enough stress has been placed on the obstructed colon as a surgical emergency, demanding in most cases early operative decompression. This may well reflect the misconceptions that allow temporizing far beyond the point of safety.

Malignant lesions of the left colon are responsible for the majority of acute obstructions. Extracolonic lesions and inflammation are secondary in frequency, and volvulus is third<sup>2</sup>. Malignant growths of the right colon seldom obstruct because of the greater diameter of this segment, the characteristically fungating type of lesion, and the semi-liquid state of the fecal stream.

From the Department of Surgery, Emory University School of Medicine and Grady Memorial Hospital, Atlanta.



Conversely, lesions of the left colon tend to be annular and stenosing.

As a rule, patients with obstructions of the colon do not present the picture of dehydration and achloremia that is seen in small bowel obstructions. Food and salt are usually retained and absorbed. Hence, many of these patients do not appear acutely ill and are often reluctant to recognize the seriousness of their disease. The greatest single factor responsible for this paradox is the ileocecal valve, which in about 65 per cent of all cases is competent. In other words, the ileocecal valve allows the small bowel to continue emptying itself into the occluded colon, even in the presence of serious distention. In this respect, the colon is said to resemble the pressure dome of a pump<sup>3</sup>. Wagensteen has spoken of this condition as a closed loop, or a strangulated obstruction<sup>4</sup>.

Because of the thinness of its walls and its greater diameter, the cecum bears the brunt of increases in intraluminal pressure. If high pressures are maintained, the cecal wall becomes ischemic, fails as a barrier to the passage of organisms into the peritoneal cavity, becomes necrotic, and finally fatal perforation may occur. It has been shown that intra-enteric pressures in the occluded colon rise to the heights far exceeding those found in the small bowel<sup>5</sup>.

The phenomenon of high intraluminal pressure in the colon, with early damage to the cecum, is readily appreciated when the significance of the hydraulic stress factor<sup>4</sup> is understood. It has been demonstrated repeatedly that the hydrostatic pressure in the acutely obstructed colon averaged about 20 to 25 cm. of water. This measurement is determined by inserting a needle with an attached manometer into the bowel at operation<sup>2</sup>. The diameter of the cecum and other segments of the colon may be found by measuring their shadows on the roentgeno-

gram, allowing a 25 per cent difference between the shadows and the actual measurements because of divergence of the rays. With these measurements accurate determinations of the tension of the bowel walls may be computed by the following formula<sup>1</sup>:

$$T(\text{cm. H}_2\text{O/sq. cm. bowel wall}) = P_i (3.14) \times D (\text{Diameter of segment} \times P (\text{Intraluminal pressure}))$$

Should the cecum, for instance, measure 10 cm. in diameter, and the transverse colon 5 cm., the tension on their walls would be 471 cm. and 236 cm. H<sub>2</sub>O per sq. cm., respectively. The frequency of cecal perforations is readily explained in the difference of stress exerted on the walls of segments of varying diameters<sup>4</sup>.

Although most cases of colonic obstruction have long antecedent histories of colicky episodes, with obstipation and difficulty in passing gas, some present themselves with complete and persistent obstruction as the first sign of malignant disease. Similarly, volvulus of the sigmoid is often preceded by recurrent mild obstructive symptoms. The presence of mild cramping pains in the abdomen, at first 15 to 25 minutes apart, the failure to pass feces and flatus, and the finding of metoroism over the colon strongly suggest obstruction. Vomiting may occur early but is usually mild. The absence of gastric retention, noted when the Levine tube is inserted, lends further support to the diagnosis. Conversely, severe vomiting, particularly if feculent, points to small intestinal occlusion. Tenderness is characteristically absent early, but when present is usually noted in the right lower quadrant, over the cecum. Tenderness, therefore, is a valuable physical finding inasmuch as it is often the first indication of serious cecal distention. The finding of marked distention of the colon on roentgenograms usually concludes the diagnosis. Since the presence of volvulus of the colon precludes proximal decompression measures, and since it is an emergency requiring direct surgical attack, it is imperative that a differential diagnosis be made early. Fortunately, the diagnostic methods employed to substantiate or ex-

clude volvulus usually clarify the nature of the existing lesion, should the volvulus not be found. The dominant finding is marked distention of the strangulated loop presenting as an elastic tender mass beneath the abdominal wall. Severe cramping pain, nausea, vomiting, and borborygmi are present. Intestinal colic, a tender abdomen, and roentgenograms showing a predominantly distended loop of large bowel strongly suggest volvulus. In obstructing cancer, intestinal colic to such a degree is rare, and tenderness, when present, is more common over the cecum. Sigmoidoscopy and barium studies may add further valuable information. The treatment usually consists of simple untwisting if the blood supply of the bowel is uncompromised, or exteriorization of the loop and obstructive resection (Rankin) if the bowel shows severe vascular occlusion.

The treatment of acute obstruction of the colon is decompression. This cannot be accomplished by the Miller-Abbott tube, except in rare instances of obstructions in or near the cecum. The Levine tube finds its greatest usefulness in preventing the volume of swallowed gas and fluids from reaching the colon. It should be re-emphasized that the obstructed colon cannot be decompressed by any system of tubes introduced through the upper intestinal tract, and that valuable time is lost in such attempts.

The operative management of the obstruction is sharply limited to simple and efficient decompression. Although more radical measures, such as resections, extensive explorations, and exclusion anastomoses have at times been utilized, they are strictly contraindicated, as the mortality from such procedures is prohibitive. The distended, friable bowel walls will not tolerate manipulation or suture lines.

There are several methods of decompressing the colon: colostomy, cecostomy,

appendicostomy, and double-barreled ileostomy. The fact that each method has its enthusiastic advocates indicates that each may serve a purpose.

Transverse colostomy seems to be the method of choice as an efficient and practical method of decompression of obstructions of the left colon. The transverse colon is usually less distended than other accessible segments and its mesentery renders its delivery possible in almost all instances, particularly if a transverse incision is used<sup>2,4,7</sup>. This incision, running as it does parallel with the colon, is advantageous in that the colon is not twisted and kinked when exteriorized. The exact line of incision may be determined by placing a coin over the umbilicus at the time of abdominal roentgenography<sup>4</sup>. Local anesthesia may be used. The colon is delivered over a glass tube, and no sutures are taken in the bowel wall, as such procedure invites leakage. Should the need for immediate decompression be imperative, the colon may be repeatedly aspirated with a needle until it is felt that enough time has elapsed for safely opening the segment. With the wound carefully protected, a catheter may be inserted and held with a purse string suture if necessary.

Left inguinal colostomy performed in a manner similar to transverse colostomy may be used for obstructive lesions of the rectum when the distention is not marked, and when it is felt that the lesion will not be resectable. Some degree of exploration may be permissible, and if the lesion is less extensive than anticipated, a permanent colostomy opening may be established in the inguinal region and the closed distal stump implanted in a small midline incision. This permits subsequent radical excision of the lesion when indicated.

Cecostomy seems to be best suited in those cases in which the cecum is not markedly distended and in which the cecum can be

delivered into the wound. In such cases its simplicity is one of its assets. It is performed through a McBurney incision under local anesthesia, if necessary. It is useful in obstructions of the right and the transverse colon. There are several disadvantages of cecostomy in high-grade obstruction. It is a technical impossibility to perform an aseptic cecostomy upon the markedly distended cecum. The paper-thin cecal walls invite infection with every stitch. Marked distention prohibits delivery. Wagensteen reported a 50 per cent mortality from cecostomy in the presence of marked distention<sup>4</sup>, and Collier and Ransom report losing five of seven patients with high-grade distention<sup>6</sup>.

Appendicostomy may be ideal in the very sick patient, but its feasibility is often absent because of absence of the appendix and difficulty in delivering a retrocecal or a bound-down appendix<sup>7</sup>.

Occasions may arise in which it may be preferable to utilize some type of ileostomy with a tube inserted through the ileocecal valve into the cecum for the purpose of decompressing an acutely obstructed colon. In such instances complete diversion of the fecal stream by transection of the ileum may accomplish better defunctionalization of the colon. It must be remembered, however, that the physiologic disturbances incident to ileostomy are not well tolerated by the seriously ill patient. This method of decompression will require subsequent closure in patients with either operable or inoperable lesions distal to the hepatic flexure. As a permanent means of decompression ileostomy is unsatisfactory; cecostomy is but little better, while colostomy distal to the hepatic flexure, if the position of the lesion permits, is the method of choice.

### Summary

1. The mechanical peculiarities of the

obstructed colon and the factors leading to cecal perforation have been discussed.

2. The urgent need for early diagnosis and surgical treatment of volvulus was stressed.
3. Several methods of decompressing the colon have been described, and particular emphasis was placed on transverse colostomy as the method of choice in obstructions of the left colon.
4. Surgical procedures more radical than simple decompression were condemned.
5. The obstructed colon is a surgical emergency usually requiring operative decompression. The limitations of the Miller-Abbott tube were mentioned.

### BIBLIOGRAPHY

1. Dinnich, Tilson: The Origins and Evolution of Colostomy, *Brit. J. Surg.* 22:142-154 (July) 1934.
2. Dennis, Clarence: Treatment of Large Bowel Obstruction, *Surgery* 15:713-734, 1944.
3. Gruenfield, G. E.: Acutely Obstructing Carcinoma of the Colon, *S. Clin. North America* 24:1126-1142 (Oct.) 1944.
4. Wagensteen, O. H.: Intestinal Obstructions, ed. 2, Springfield and Baltimore, Charles C. Thomas, 1942.
5. Sperling, Louis; Paine, John R., and Wagensteen, O. H.: Intraenteric Pressure in Experimental and Clinical Intestinal Obstructions, *Proc. Soc. Exper. Biol. & Med.* 32:1504-1506, 1936.
6. Collier, F. A., and Ransom, H. K.: Carcinoma of Rectum; Conclusions Based on Twelve Years' Experience with Combined Abdominoperineal Resection, *Surg. Gynec. & Obst.* 78:304-315, 1944.
7. Fallis, Lawrence S.: Transverse Colostomy, *Surgery* 20:249-256, 1946.

### CORNEAL TRANSPLANT

A Montana World War I veteran, blinded in a dynamite explosion 12 years ago, is beginning to see again through the transplanted cornea of a World War II veteran.

The delicate operation was performed on William Ness Nickerson of Bozeman, Mont., in the Veterans Administration hospital at Fort Harrison, Mont.

Two weeks after the operation Nickerson could make out form outlines and count his fingers at a normal distance. He owes his partial vision to Clarence Wold, Butte veteran who was blinded in one eye during the battle of Luzon in the Philippines.

When Wold entered the VA hospital, physicians found that, although his sight was gone, the cornea was in good enough condition for transplantation. At the same time Nickerson, who had undergone many unsuccessful operations, applied to VA for treatment. Both veterans agreed to the operation. As they lay side by side in the hospital surgical room, the cornea was removed from Wold's eye and replaced in one of Nickerson's eyes.

When the bandages were removed 14 days later, Nickerson reported he could see shadowy shapes, distinguish light from dark, and nearly make out facial characteristics through the haze.

A few days later, his wife and 12-year old son were brought in for him to see. For the first time since his son was five months old, Nickerson was able to look in the direction of his voice and see more than darkness.

Shortly afterwards, Nickerson was released from the hospital, although VA physicians continue to follow his progress in regaining his sight.



## EARLY POSTOPERATIVE AMBULATION

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*Atlanta*

The value of bed rest in recovery has long been recognized. Recently, however, there has been a growing awareness of the hazards accompanying confinement to bed. The most serious complications resulting from constant confinement are atelectasis and pneumonia, thrombosis and embolism, and hollow viscus atony. It is in the prevention of these complications that early postoperative ambulation has been most strongly advocated. Coincident with these advantages some authors have noted improved morale<sup>6 10 12 25</sup> less asthenia<sup>6 25</sup> and accelerated healing of tissues<sup>6 11 22</sup>. Economic advantages are also cited, such as shortened hospital stay<sup>6 9 23</sup>, reduced need for nursing care<sup>6 23</sup>, and more rapid hospital turnover<sup>6 23</sup>.

The concept of early ambulation after major surgery is not a recent one. In 1899, Emil Ries of Chicago published the original report on the use of this method of postoperative surgical management<sup>24</sup>. This radical departure from accepted methods was prompted by his observation of a patient whose wound healed well despite her having walked across the room the night after operation. During the next decade early ambulation gained favor and was widely practiced in Central European countries, but it fell into disrepute, probably as a result of the gross surgical technics used during this period<sup>23</sup>. With the development of more refined surgical technics, better suture materials, parenteral fluid therapy and chemotherapeutic agents there has been a revival of interest in the method. Its advocates are

enthusiastic as to its value as an aid in rapid recovery and in the prevention of postoperative complications.

### *Pulmonary Complications*

There are many factors involved in the production of pulmonary complications postoperatively. During the actual operative procedure there is irritation of the respiratory mucosa by the anesthetic with resultant hypersecretion of mucus. The cough reflex is abolished by the anesthesia preventing the removal of the tenacious mucus. After operation fear and pain further inhibit the cough reflex. Beecher<sup>2</sup> has shown that there is a reduction in vital capacity and tidal volume after abdominal operations. This restriction of respiratory movement is another factor in the production of atelectasis.

Early postoperative ambulation aids in the prevention of pulmonary complications in several ways. Usually deep breathing and voluntary coughing are a part of the ambulation procedure. This forces the mucus which has accumulated peripherally into the larger bronchi, where the cough reflex is more active. Leithauser<sup>15</sup> states that in patients with hypersecretion of mucus, assuming a vertical position will often produce involuntary coughing, enabling the patient to expectorate the accumulated mucus. He also points out that coughing is more efficient in the standing position.

The postoperative reduction in vital capacity disappears much more rapidly when patients are allowed out of bed early. In patients confined to bed after operation, the return to normal vital capacity was delayed until the seventh to fourteenth day. In patients who were ambulatory the vital capacity returned to normal in less than half this time<sup>16</sup>.

Practically all observers have noted a reduction in the incidence of atelectasis and subsequent pneumonia with this method

of management. In some reports this has been striking. Newberger<sup>23</sup> states that these complications are reduced four to five fold. Schafer and Dragstedt<sup>25</sup> report no pulmonary complications in 102 cases. In a series of 840 cases, including all types of operations, Leithauser<sup>20</sup> reports no massive atelectasis. Four patients in this series had threatened atelectasis which was readily controlled by coughing. From a theoretical stand-point, early ambulation has many advantages over conventional methods in the prevention of pulmonary complications. This has been adequately supported by clinical reports.

### *Thrombosis and Embolism*

The pathologic physiology leading to thrombosis, thrombophlebitis and embolism is not entirely understood. The factors which are known to play a part are intimal injury, changes in composition of blood leading to increased clotting tendency, and slowing of blood flow<sup>4</sup>. The first factor can be minimized by gentle handling of tissues at operation. Recent advances in the use of anticoagulant drugs, such as dicumarol and heparin, offer hope of controlling the second factor. It is in the prevention of sluggish circulation that early ambulation is of value. Leithauser<sup>17</sup> states that bed rest may produce injury to the intima through pressure on the legs. If this is the case, then ambulation is of additional value in the prevention of intimal injury.

Active muscular movement aids in propelling the blood through the venous channels. This is due to a massaging effect of muscular contraction plus the arrangement of venous valves. Muscles of the abdominal wall also aid by preventing distention of the abdominal veins<sup>3</sup>. Active muscular movement, in both legs and abdominal wall, is best obtained by walking.

There is some disagreement among various investigators as to the value of post-

operative ambulation in the prevention of thrombosis and embolism. Ashkins<sup>1</sup> reported one pulmonary infarct and one thrombophlebitis in a series of 823 cases using early ambulation. He was not convinced that this method prevented postoperative thrombosis. Others<sup>6 8 21 23 25</sup> are of the opinion that the incidence of these complications is definitely decreased by early rising. Headings<sup>8</sup> reports no cases of thrombophlebitis, phlebothrombosis, or pulmonary embolism in a series of 102 cases in which early rising was instituted following cesarean section. Leithauser's<sup>18</sup> series of cases is striking. In 2047 unselected cases subjected to early ambulation there was no pulmonary embolism and only two instances of thrombophlebitis.

Early ambulation is obviously not the final answer in the prevention of thrombosis, thrombophlebitis and pulmonary embolism, since it acts on only one of many factors responsible for the production of these complications. In conjunction with anticoagulant drugs it is theoretically capable of reducing the incidence of thrombotic phenomena. With a few exceptions the clinical reports are encouraging.

### *Hollow Viscus Atony*

Atony of the bladder and abdominal distention are frequent postoperative complications, caused by reflex inhibition of smooth muscle tone as a result of surgical trauma. Minimum manipulations are of greatest value in prevention of these complications. Early ambulation, through improvement in muscular tone, reduces the incidence of these complications. Clinical reports are in agreement as to the reduced need for postoperative enemas and catheterizations.<sup>6 8 9 10 19 21 23 25</sup>

### *Miscellaneous Advantages*

Newburger<sup>23</sup> points out that patients treated by this method do not have the usual

period of depression. Morale is greatly improved and asthenia is avoided. This has been the impression of others who have tried the method.

Jernigan<sup>9</sup> states that the average hospital stay is shortened five to seven days. The advantage to both patient and hospital is apparent. The amount of nursing care necessary for the care of these patients is much less than with conventional methods<sup>6</sup>.

### *Objections to Early Ambulation*

The most frequent single objection raised to early rising after operation is the possibility of wound separation and postoperative hernia. In Leithauser's<sup>13</sup> review of over 20,000 cases subjected to early ambulation, there was no increase in the incidence of these complications. In his own series of 1840 abdominal operations there were no wound disruptions and two postoperative hernias. Some have reported more rapid healing of tissues with this method. Newburger<sup>22</sup> found that exercise caused a more rapid increase in the tensile strength of wounds in rats. It was postulated that this might be due to a more rapid development of fibroblasts, but histologic studies failed to confirm this. Kimbarouskiy<sup>11</sup> found that wound healing was more rapid in dogs allowed their usual motion.

From the evidence at hand it seems that with good surgical technic, proper anatomic incisions, and proper sutures there is no greater danger of wound separation or postoperative herniation with early rising than with prolonged bed rest. Experiments on accelerated wound healing with exercise are too few and too inconclusive to be of value at present.

Newburger<sup>23</sup> states that there is a fear of medicolegal consequences by some surgeons. He points out that there is now enough evidence in favor of early ambulation so that this is no longer to be feared.

### *Technic of Early Rising*

There is little agreement among investigators as to when patients should be made to walk. Campaneau<sup>5</sup> advocated that they be made to walk to their rooms after the operation. This would obviously be possible only in those cases in which local anesthesia is used. Others<sup>10-21</sup> have advised rising on the same day as the operation or within twenty-four hours. Still others<sup>7</sup> have considered rising within eighty-four to ninety-six hours as "early" ambulation.

Ambulation within the first few hours after operation would seem to be optimal for the prevention of postoperative complications. Leithauser<sup>14</sup> states that exercises should be started as soon as the patient recovers fully from the anesthetic, since atelectasis and thrombosis are usually incipient during the first twenty-four hours after operation.

The procedure used by different authors in obtaining early ambulation varies only slightly. As soon as the patient begins to respond he is made to flex and extend the legs frequently and to breathe deeply. After recovery from the anesthetic, usually three to four hours after operation, he is asked to turn on his side and place his feet over the edge of the bed. He is then aided in sitting on the edge of the bed. Frequently the patient coughs voluntarily on assuming the vertical position. If this does not occur he is encouraged to breathe deeply and to cough until he feels that all material has been expectorated. The patient then stands and, with aid, walks across the room or around the bed. He then returns to the recumbent position.

After the first period of ambulation the patient usually has little pain with exercise and requires no further assistance in getting in and out of bed. He is made to repeat the above process several times the first day. The second day bathroom privileges are given.



Postoperative care other than ambulation is not neglected. Morphine is administered only as needed for pain and intravenous fluids are administered if necessary. If a nasal tube is present it is clamped during the ambulatory periods. Postoperative enemas and catheterizations are usually not necessary.

Because of tradition and fear of pain the patient is usually skeptical of his ability to walk a few hours after operation. A simple explanation of the advantages and reassurance is usually all that is required. Leithauser<sup>13</sup> emphasizes that the patient should have no more choice in the institution of early ambulation than he has in the selection of an anesthetic or a surgical procedure. The surgeon should be guided by the increased safety and well-being of his patient and not by the patient's wishes.

#### *Contraindications to Early Ambulation*

There is some disagreement among various writers as to the contraindications to early rising. The majority consider the following conditions as contraindications: (1) profound shock, (2) uncontrolled hemorrhage, (3) cardiac insufficiency and (4) prolonged preoperative bed confinement. Ordinary wound infections are not considered contraindications to early rising. Overwhelming infections, such as peritonitis, would be a contraindication.

#### *Summary*

Early ambulation as a method of postoperative surgical management is gaining wide recognition. It seems to carry no more danger of wound disruption and postoperative hernia than the conventional method of prolonged bed rest. The incidence of atelectasis and pneumonia is markedly reduced. Thrombosis and embolism are reduced in frequency. There is a striking improvement in the general appearance of the patient with this method of treatment. Hospital stay is reduced, with a subsequent

reduction in expense. The contraindications to early ambulation are few in number.

#### BIBLIOGRAPHY

1. Ashkins, J.: Early Rising After Surgical Operations, *New England J. Med.* 233:33-37, 1945.
2. Beecher, H. K.: Measured Effect of Laparotomy on Respiration, *J. Clin. Investigation*, 12:639-650, 1933.
3. Best, C. H., and Taylor, N. B.: *The Physiological Basis of Medical Practice*, ed. 3, Baltimore, Williams & Wilkins Company, 1943, p. 233.
4. Boyd, W.: *A Textbook of Pathology*, ed. 4, Philadelphia, Lea & Febiger, 1943, p. 72.
5. Campeanu, cited by Leithauser<sup>13</sup>.
6. Dickerson, D. L.: Preoperative and Postoperative Care of Acute Surgical Conditions of the Abdomen, *Am. J. Surg.* 72:900-909, 1946.
7. D'Ingianni, U.: Early and Late Postoperative Ambulation: Comparative Study of 303 Cases, *Arch. Surg.* 50:214-218, 1945.
8. Headings, D. M., and Palmer, R. E.: Relation of Early Rising to Morbidity in Cesarean Section, *Am. J. Obst. & Gynec.* 52:661-664, 1946.
9. Jernigan, S. H.: Editorial: Postoperative Early Ambulation, *J. M. A. Georgia* 35:296-298, 1946.
10. Jones, G. F.: Early Rising After Major Surgery, *J. M. A. Georgia* 35:289-292, 1946.
11. Kimbarouskiy, cited by Leithauser<sup>13</sup>.
12. King, A. G.: Early Puerperal Rising, *Am. J. Obst. & Gynec.* 52:657-660, 1946.
13. Leithauser, D. J.: Early Ambulation and Related Procedures in Surgical Management, Springfield, Charles C. Thomas Company, 1946, p. 13-19.
14. *Ibid.*, p. 39.
15. *Ibid.*, p. 43.
16. *Ibid.*, p. 58.
17. *Ibid.*, p. 64.
18. *Ibid.*, p. 76.
19. *Ibid.*, p. 153.
20. *Ibid.*, p. 177.
21. Leithauser, D. J., and Bergo, H. L.: Early Rising and Ambulatory Activity after Operation: A Means of Preventing Complications, *Arch. Surg.* 42:1086-1093, 1941.
22. Newburger, B.: Early Postoperative Walking: I. The Influence of Exercise on Wound Healing in Rats, *Surgery* 13:692-695, 1943.
23. Newburger, B.: Early Postoperative Walking: II. Collective Review, *Surgery* 14:142-149, 1943.
24. Ries, Emil: Some Radical Changes in After Treatment of Celiotomy Cases, *J. A. M. A.* 33:454-456, 1899.
25. Schafer, P. W., and Dragstedt, L. R.: "Early Rising" Following Major Surgical Procedures, *Surg. Gynec. & Obst.* 81:93-97, 1945.

#### ISSUE POSTAGE STAMP COMMEMORATING A.M.A. CENTENNIAL, JUNE 9

Postmaster General Robert E. Hannegan has approved the issuance of a commemorative postage stamp honoring the doctors of America.

The special stamp will be of the three-cent variety and will be placed on sale on June 9 on the occasion of the 100th anniversary of the founding of the American Medical Association.

"In so honoring the American doctor," Mr. Hannegan said, "we are paying tribute to the men and women of medicine who devote their lives to the cause of humanity. Alleviation of pain and suffering and the betterment of mankind is their creed. The contribution which they have made to our national life is one of which all Americans can be proud and grateful."

Details as to the place of sale and description of the stamp will be announced later.

#### A MESSAGE TO PARENTS ABOUT INFANTILE PARALYSIS

I am very happy to learn that the National Foundation for Infantile Paralysis, in cooperation with all schools throughout the country, is distributing to 30,000,000 school children, the educational leaflet: "A Message to Parents About Infantile Paralysis".

This project, designed to allay fear and panic, merits the endorsement of every one interested in the welfare of the nation's youth. I hope, indeed, that this program meets with richly deserved success. It is timely, it is important, and it is a fine forward step in bringing to the American people the facts they need and must have—J. W. STUDEBAKER, U. S. Commissioner of Education.

## HOSPITAL EXTENSION SERVICE IN GEORGIA

TULLY TALBOT BLALOCK, M.D.

*Atlanta*

If the prospective Atlanta medical center is simply to add additional beds to those already available in Atlanta, it will hardly justify the planning and sacrifice of those engaged in making it a reality. Crystallization of these plans makes pertinent the question of where such a center will fit into the over-all program of betterment of medical care for the citizens of Georgia and the Southeast. The problem of adequate medical care in Georgia involves not only the satisfactory distribution of medical facilities, but also the establishment of channels for rapid dissemination of new advances both of a technical and clinical nature. Given the name of medical extension service, such a plan is already successfully in operation in the New England states under the trusteeship of the Bingham Associates Fund. Rural Georgia has a medical problem similar in many respects to rural New England. There are many small community hospitals inadequately equipped to carry out the newer technical and scientific procedures necessary for accurate diagnosis and effective treatment of the patient. Notable among these deficiencies are x-ray and pathologic interpretation, electrocardiography, laboratory technic, library facilities, and resident staff assistance. It is in these varied fields that the medical center is equipped to offer valuable assistance.

Obviously a certified x-ray specialist is to be found in an institution in which there is a large volume of work. Small community hospitals cannot afford to employ such a specialist. In Massachusetts a plan is in operation whereby the small hospitals send their x-ray films into the medical center for

interpretation and receive a written report. Bi-weekly conferences at the medical center afford the small-town roentgenologist an opportunity to discuss unusual problems. Occasional visits to the outlying hospitals are made by the center roentgenologist to discuss technical procedures with x-ray technicians and to correct observed mistakes. The criticism may justifiably be offered that such a program would become unwieldy. In this event, the state can be divided into areas surrounding base hospital centers established in the larger towns such as Macon, Augusta, Savannah, and Columbus, these towns to act as intermediary centers to screen more routine work, the last analysis resting with the greater medical center in Atlanta. The main purpose of such decentralization would be to expedite the more routine reports.

*Laboratory aid.* Scholarships can be created for laboratory technicians whereby they can spend a month in the medical center learning the new and more complicated procedures. During their absence from their community hospitals, the medical center will supply an itinerate technician who, at the end of the month, will move on to another small hospital. Hospital laboratory procedures can and should be standardized by the medical center with the mailing of monthly bulletins containing subjects of interest. When the hospital is too small to employ a full-time technician, the itinerate technician can teach the simpler laboratory procedures to a responsible nurse.

*Electrocardiography.* Sections of tracings can be sent by the local electrocardiographer to the medical center where trained cardiologists will examine them and offer an interpretation. Periodic short post-graduate courses can be offered with the small-town cardiologists invited to attend to observe the newer technics and advances.

*Resident assistance.* An important part of any extension program is the offering by

the medical center of resident and intern services to the small community hospitals that could not otherwise attract such men. Interns could be rotated out of the center on a monthly basis, and a young man would be able to spend three months of his first year of internship working in a small hospital meeting the protean problems confronting the small-town physician. There is no doubt that this would result in the attraction of a larger number of younger men to the rural districts, a circumstance which would be mutually beneficial. More specialized service would be afforded by a visiting resident, who by spending one month in the community hospital could bring to the local practitioners new technics in surgery and new ideas in medicine. The experience has been that this teaching is not resented, but rather appreciated by the local men who have not the time nor the means to seek this instruction elsewhere. With the great number of veteran physicians in search of residencies such a plan would offer an additional outlet for their services. The visiting interns and residents would also be able to assist in setting up laboratories and various technical aids in the small hospitals.

*Library service.* A not inconsiderable handicap of small community practice is the inaccessibility of adequate medical literature. The Medical Center, with the assistance of Emory University's excellent library school, could offer help in the setting up of small medical libraries with a periodical mailing service and perhaps some provision for an abstracting service for those interested in preparing medical papers.

*Pathology.* Perhaps the most sought after and appreciated service that can be offered the small community hospital is the benefit of expert pathologic interpretation of surgical and autopsy specimens. It is rare that one finds a trained pathologist outside of the larger cities and hospitals. The field is one which lends itself to the academic at-

mosphere of a teaching institution. It should be possible for the community hospital to send its tissue specimens into the regional base hospital or The Medical Center where sections can be interpreted and a written report rendered. In the case of urgency the report can be given by telephone. It is not unlikely that sufficient work would be available to occupy the full-time of a pathologist who could be supported by a scholarship.

*Post-graduate courses.* Short, intensive, practical courses appeal to the small-town practitioner. With the facilities at its command, the Medical Center would be able to establish a program of such courses the year around and a schedule of these courses could be mailed to each local society.

*The Bulletin.* A monthly medical bulletin is a popular medium through which the center may reach the doctors in "the provinces". Such a bulletin would reflect the work being done in The Medical Center and preferably would contain articles of current interest and educational value and not merely serve as a log of unusual case reports.

The economy of such a program as here described lies in the mutual cooperation between the community hospital and The Medical Center for the purpose of offering better medical care to the citizens of Georgia. The facilities for its inception are already in existence and need only to be organized. The actual cost of such an operation must be borne at the onset by the Medical Center for the obvious reason of securing the cooperation of the less heavily endowed community hospital, which will be receiving a valuable service at no expense. In turn, a large portion of the expense at the Medical Center can be covered by grants for individual scholarships, secured from philanthropic organizations, some of which have already expressed a definite interest in the execution of such a program.



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MAY, 1947

**THE AUGUSTA SESSION, 1947**

The ninety-seventh annual session of the Medical Association of Georgia held in Augusta April 22-25, was indeed the first normal post-war session. Significant at this meeting was the interest manifested by the various groups attending. For example, 536 members of the Association signed the registry. Visiting physicians, not members, numbered 121. Medical students, mostly from the University of Georgia School of Medicine, numbered 69. Exhibitors numbered 117, and miscellaneous visitors, most of whom were representatives of the press, added another nine. Registered for the Woman's Auxiliary meeting were 200 physicians' wives. The grand total registered for this session was 1052 persons.

The House of Delegates held three meetings and transacted much of the business of the Association. The Council held two meetings and dispensed with additional business, all in the interest of the Association and of the people as a whole. Emanating from this session of the Association, all of which were finally approved at the general session on the last day, were proposals for further perfection of a prepayment medical program for the people of Georgia, a proposal that the Constitution of the Medical Association of Georgia be amended to change the present system of voting for officers of the Association, a proposal that the committees on Public Policy and Legislation and Medical Defense of the Association put a stop to infractions of Georgia laws dealing with medical licensure and medical practice, a proposal that the Abner Wellborn Calhoun

Lectureship be made a permanent lectureship of the Association, and proposals to modify the fee schedules now in use for workmen's compensation cases and for veterans. Due to increased costs for printing THE JOURNAL and for other services of the Association, dues for 1948 were set for \$10.00.

Honored at this session for distinguished service to organized medicine, and for other activities as well, was Dr. Allen Hamilton Bunce of Atlanta. Long an officer in some capacity of the Medical Association of Georgia, and for ten years a member of the Board of Trustees of the American Medical Association, Dr. Bunce was awarded the Hardman Loving Cup, a cup given the Association by the late Governor L. G. Hardman of Georgia, himself a physician.

At the concluding session Dr. Edgar Hill Greene, of Atlanta, was elected president-elect; Dr. J. Victor Roule, of Augusta, was named first vice-president; and Dr. T. J. Ferrell, of Waycross, was designated second vice-president. All other officers were continued for another year.

The scientific program for this session of the Association showed evidence of medical progress comparable to other sections of our country, as did the scientific and technical exhibits. Finally, social activities were numerous everywhere, and all visitors to Augusta left with a feeling that no other host city could be more gracious and that this session had been most profitable in every way.

**EDGAR HILL GREENE, M.D.**

At the closing meeting of the ninety-seventh annual session of the Medical Association of Georgia, held in Augusta April 22-25, 1947, Dr. Edgar Hill Greene, of Atlanta, was elected president-elect of the Association. Dr. Greene will assume his duties as president of the Association at the Atlanta session in 1948.

The son of the late Charles Jewett and Emma Elizabeth (Gaskin) Greene of Randolph County Georgia, Edgar Hill Greene was born in Shellman, Georgia, Jan. 22, 1889. In addition to his father and mother, included among his distinguished forbears were General Nathaniel Greene of American Revolution fame; and the Honorable Benjamin Harvey Hill, Confederate statesman and United States Senator from the State of Georgia.

Born and bred kindly of heart, and from the beginning a philosopher, Ed Greene early sought information regarding the affairs of the world. In due time he graduated from his local school—Shellman Institute—and then trekked to Old Emory College at Oxford, Georgia, where he stayed till he was ripe enough to matriculate as a freshman in a medical school. Being a Methodist and having been under the influence of this teaching at college, he matriculated in a medical school which was sponsored by the Methodist Church and which was destined to become a part of a great university—Emory University—from which he received his degree of Doctor of Medicine in 1915.

First an intern at Willard Parker Hospital, New York City, and later serving in a similar capacity at Davis-Fischer Sanatorium (now Crawford W. Long Hospital), Atlanta, Dr. Greene has climbed with consistency the long ladder to deserved medical recognition. After completion of his hospital training he devoted a short time to private practice. Then came World War I. Always patriotic to the core, he joined the late Dr. E. C. Davis, of Atlanta, in organizing Base Hospital No. 43 (the Emory unit), serving with distinction with this organization in this country and in France. Returning home from France in 1919, he again entered the field of private practice but devoted much of his time to teaching in the Department of Obstetrics and Gynecology



EDGAR HILL GREENE, M.D.

of Emory University School of Medicine, and participating actively in the affairs of the various hospitals of Atlanta.

Long a member of organized medicine, and with attentive ears to the medical needs of the people as a whole, Dr. Greene has held many positions of trust. Continuing his interest in military affairs following World War I, he affiliated with Georgia's National Guard, attaining the rank of lieutenant-colonel before his retirement in 1940. From this time till the cessation of hostilities of World War II, he was adviser to Selective Service in Georgia and at the same time was chairman of the Committee on Medical Preparedness of the Medical Association of Georgia, this committee later being designated the State Committee for the Procurement and Assignment of Physicians. His ability and untiring energy being recognized by national military leaders, he was soon promoted to the chairmanship of a



similar committee of the Fourth (Army) Service Command. Upon the completion of his military duties at the conclusion of the war, he was awarded a citation by the President of the United States. Offices held by him in the various medical organizations are too numerous to list here. Suffice it to say, he is a past president of the Fulton County Medical Society and has served on many important committees of that society and of the Medical Association of Georgia. He is a Mason, is a steward in his church, is a member of the American Legion, and is a member of Phi Delta Theta and Theta Kappa Psi fraternities. His hobbies are music, hunting and fishing. He is author of various medical papers dealing with surgical and gynecological subjects. He is a Fellow of the American College of Surgeons, and was a charter member of the Southeastern Surgical Congress.

Dr. Greene was married to Miss Annabel Burkhead of Opelika, Alabama, and Grotoes, Virginia, Nov. 12, 1924. They have one son, Edgar Hill Greene, Jr., now a student at the University of Georgia.

With Dr. Greene's leadership, which includes at all times his love for all of the people, the Medical Association of Georgia can well look forward to solution of some of its current problems. May each member of the Association give him his or her full support.

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#### MAY 5 IS 100TH BIRTH DATE OF AMERICAN MEDICAL ASSOCIATION

*Association, With Membership of 130,000  
Physicians, Will Celebrate Founding  
In Atlantic City, June 9-13*

The American Medical Association will be 100 years old May 5.

It was on May 5, 1847 that delegates to the National Medical Convention met in the hall of the Academy of Natural Sciences in Philadelphia and founded the American Medical Association.

The association, which today has a membership of more than 130,000 physicians, will celebrate

its founding at the annual session in Atlantic City, June 9-13. The program will represent a high point in the assemblages of physicians anywhere in the world.

When the delegates convened 100 years ago in Philadelphia to organize an association of physicians, several names were suggested for this new permanent national organization, including "The Conventional Association of the United States," and "The Medical Association of the United States of North America." Both these proposals were lost on the convention floor, after which the constitution was offered and accepted. The constitution included the clause: "This institution shall be known and distinguished by the name and title of the American Medical Association."

The prodigious advancements in medical science helped to build this organization, which continues the education of its members through meetings, exhibits, in many periodicals, its councils and committees and in many other ways. The benefits of all these activities are passed on to the public.

#### *A.M.A. Is Non-Profit Institution*

The American Medical Association is a non-profit institution, with headquarters in a granite and limestone eight-story structure at 535 North Dearborn Street, Chicago. Its purposes are to promote the science and art of medicine; to elevate the standard of medical education and practice; to bring about the enactment of uniform legislation for the public welfare and to protect the public health. The association publishes *The Journal of the A. M. A.*, sometimes termed the physician's bible, and several other scientific journals dealing with specific fields of medicine.

From the very beginning of the American Medical Association has prosecuted its war on quackery and more than any other agency in the country can take credit for the vast improvement that has occurred in the abolition of nostrums, secret medicines and quackery. The association maintains a Bureau of Investigation, established in 1906, to gather information on the nostrum evil and quackery, medical frauds, fallacies, fadism and allied topics.

#### *Many Rely on Bureau for Help*

The Bureau of Investigation is a clearing house for information on subjects with which it deals. Federal, state and municipal health authorities, teachers in schools and colleges, physicians and others interested in the public health refer thousands of inquiries to this bureau each year. The functions of the bureau are wholly educational in character—not punitive.

The beautiful Chicago headquarters of the A. M. A. is a landmark in the continuously expanding work of the association. From 1847 until 1883, when the authoritative *Journal* was established, the association had no headquarters other



than the offices in which the secretaries conducted their medical meetings.

Leader of the organization movement was Dr. Nathan Smith Davis, original editor of *The Journal*. The first copies of the world-famous publication were issued from his office, and the first editorial office was established at 68 Wabash Avenue, Chicago, on Nov. 23, 1888. In March of 1902 the present property at Dearborn and Grand, Chicago, was acquired. At that time the circulation of *The Journal* was 25,000. Today the weekly medical publication under the editorship of Dr. Morris Fishbein exceeds a circulation of 115,000.

#### *Leads in Many Special Campaigns*

Early in its career the American Medical Association recognized the importance of the state in the development of preventive medicine and public health. More than any other organization it has the credit for the development of the state health departments and of the U. S. Public Health Service. It has cooperated with every voluntary health agency in assuring adequate return for the funds contributed by the people in promoting research and in education both of the public and of the medical profession regarding tuberculosis, cancer, blindness, deafness, paralysis, heart disease and the work of the Red Cross in disaster and catastrophe. Some of its special campaigns have led to the elimination of the hazards of fireworks during Fourth of July celebrations. It has led in the campaigns against motor accidents and the provision of first aid when such accidents occur. It has carefully recorded the progress of the campaigns against deaths from typhoid and diphtheria. It has stood as the bulwark of medical science against the vast army of the ignorant, the stupid and the fanatic, the antivivisectionists and the antimedical science groups.

#### *Association Never Appeals for Outside Funds*

All of these functions it has carried on with never an appeal for funds from any agency outside the medical profession itself, never an appeal to any other agency than the medical profession itself to eliminate the evils and misrepresentations.

The centennial session in Atlantic City is expected to attract more than 15,000 physicians. More than 400 medical papers will be read during the five-day meeting, covering such subjects as the antihistamine drugs, infantile paralysis, cancer, the antibiotic drugs—penicillin and streptomycin—and radioactive products in medicine. Several distinguished English medical men have been invited to take part in the scientific meetings.

On Saturday, June 7, the Board of Trustees and officers of the association will tender a banquet to leaders in the industries and occupations associated with medicine. General Omar Bradley of the Veterans Administration, Washington; Basil O'Connor, New York, chairman of the American Red Cross and president of the Na-

tional Foundation for Infantile Paralysis, and H. W. Prentis, Jr., president of the Armstrong Cork Company, Lancaster, Pa., will comment on the influence of American medicine on the nation's progress.

#### FIND LIFE-SAVING TREATMENT FOR DANGEROUS LIVER AILMENT

##### *77 Per Cent Survival Rate Reported for Cirrhosis of Liver Patients After Crude Liver Extract Treatment*

The death rate from cirrhosis of the liver, which has always been high, has been reduced following treatment with crude liver extract, according to four New York physicians writing in the April 19 issue of *The Journal of the American Medical Association*.

The physicians—Daniel H. Labby, Robert E. Shank, Henry G. Kunkel and Charles L. Hoagland, from the Hospital of the Rockefeller Institute for Medical Research—treated 30 patients.

Previous investigators, who observed a comparable number of patients with symptoms of late stages of the disease, reported the survival rate over a two year period to be approximately 45 per cent when the patients were treated by diet and vitamins; 22 to 25 per cent among untreated patients and 65 per cent for patients treated by injections of liver extract into the veins. The present report represents a survival rate over a two year period of 77 per cent of 30 patients.

Cirrhosis of the liver is commonly found among heavy alcoholic drinkers but it may also occur in total abstainers. In this group, 21 patients were chronic alcoholic addicts.

When the liver becomes cirrhotic, its cells degenerate and are replaced by scar tissue. As a result, the blood vessels in the liver become constricted and the blood stagnates in them. Eventually cirrhosis causes the serum to ooze out of the swollen veins and to produce swelling of the abdomen. This condition, called ascites, found in 21 patients before treatment was begun, necessitates draining off the liquid from the abdomen. Also, the veins in the esophagus may become dilated and hemorrhage where this food-carrying canal enters the stomach. Seven patients in this series had esophageal hemorrhages.

The crude liver extract was injected into the veins of the patients two or three times a week for six months or longer. No strict supervision of diet was undertaken, state the authors, but withdrawal from alcoholic beverages was insisted on, and the patients were instructed to select foods high in protein and rich in carbohydrate; no foods were prohibited if they were tolerated without distress. In addition, if the patient exhibited a vitamin B deficiency, supplements of the vitamin B group were prescribed only long enough to overcome the deficiency.

Commenting on the results, the physicians state that one of the first signs of improvement was a return of appetite, which in many instances became hearty after having been practically non-existent before treatment. Coincident with this, a sense of well-being developed, fatigability diminished, and there was a gain in body weight.

#### INFORMATIVE NOTE

Otto L. Bettmann, director of the Bettmann Archive, 211A East 57th Street, New York 22, N. Y., reports that his organization has assembled a large group of old time prints dealing with American medicine during the last 100 years. Newspapers and magazines, planning special picture features in connection with the centennial celebration of the American Medical Association in Atlantic City in June, can receive prints on an approval basis. The historical prints dramatize the progress of medicine since the inception of the American Medical Association.

## GEORGIA DEPARTMENT OF PUBLIC HEALTH

METHODS OF TUBERCULOSIS DETECTION  
AND MANAGEMENT OF TUBERCULOSIS  
SUSPECTS

A well planned concerted action by all the practicing physicians of the State aided by public health, public welfare, tuberculosis associations, and other agencies can provide a sure control of tuberculosis and a fairly rapid reduction of tuberculosis incidence and death rates.

It is only necessary to put into energetic practice the well known and recognized principles generally employed in the control of other communicable diseases. These consist of locating the sources of infection and the contacts to such sources and keeping them under observation, isolation and treatment until danger from them has ended. The source of tuberculous infection is almost entirely the person who has tuberculosis in communicable form; that is, having positive sputum. Unpasteurized milk from infected animals no doubt gives rise to some tuberculosis in man. There should be uncompromising insistence that animals producing milk for human consumption be tuberculin negative, or that the milk be pasteurized, or, what is better, that both be required.

*Responsibility of the Physician*

The importance of integration of the practicing physician in a large scale tuberculosis control effort should be obvious. The very extent of the problem makes it so. Tuberculin tests disclose that an enormous number of persons have been infected. The only way to find out who, except those with positive sputum, have been infected is to test everybody with tuberculin. Every tuberculin reactor must be regarded as a suspect until he is proven by other examinations not to have active tuberculosis. Out of the large group of reactors many active cases develop each year to such an extent that annually approximately 1000 people in the State lose their lives. No age group is exempt. The toll is gathered from infancy to extreme old age. It makes its attack among people in all walks of life. Its onset is usually so insidious that it cannot be detected by ordinary means, therefore the wise physician will keep in mind the need for periodic special examinations of his entire clientele, even though his clients appear healthy.

What should the physician do to effectively serve his patrons? First, he should make himself sure in what appear to be acute pulmonary and pleural conditions that tuberculosis is not a factor, and certainly he should do so in the subacute and chronic cases. Properly used, tuberculin tests, sputum examinations, x-ray examinations and careful history taking generally solve the problem.

*Sputum Examinations*

Sputum examinations for tubercle bacilli in acute pulmonary disease should be made whenever there is the slightest suspicion that tuberculosis may be a factor. They should be made if such acute attacks are repeated after protracted convalescent periods and in all chronic pulmonary conditions in which there is cough, particularly if the patient is sensitive to tuberculin. When the ordinary smear sputum examination is negative it may be desirable to have sputum culture made, and even in some cases to secure by gastric lavage specimens for cultural examination. Specimens of pleural fluid, when present, should be obtained for cultural examination. When these sputum examination procedures are made routine practice it is surprising how many previously supposed cases of "chronic bronchitis", "asthma", "cigarette cough", etc., prove to be tuberculosis in communicable form. Other methods of securing specimens such as by laryngeal swab or culture<sup>1</sup> are useful. As tuberculosis may occur in other organs than the lungs and pleura, discharges from other organs and tissues should be examined for tubercle bacilli whenever it is suspected this disease may be present.

*Tuberculin Tests*

It is generally accepted that tuberculo-protein sensitivity results only from tuberculous infection. It is stated above that a very large number of people have this sensitivity. When we tested large groups of young adults in the colleges of the State, 40 to 80 per cent were found to be reactors when we employed the two dose method. This consisted of giving by the intracutaneous (Mantoux) method 1.0 mg. of Old Tuberculin to all who failed to react to the 0.01 mg. dose. When the reactors were followed up three-tenths to about one-half of one per cent were found to have active tuberculosis. Several years ago it was shown that nearly all active cases of tuberculosis would react to the first dose, that is 0.01 mg. of old tuberculin intradermally. More recently it has been shown that testing with a somewhat larger dose will disclose all active cases.<sup>2</sup> The exceptions are terminal cases in which, of course, there is no need for tuberculin testing, cases in which infection has occurred so recently that there has not been time for tuberculin sensitivity to be established, and in those cases in which sensitivity has been temporarily lost because of recent exanthematous disease. This intermediate dose may be regarded as quantitative, then, and the preparation particularly recommended for this purpose is purified protein derivative tuberculin, known as PPD, and the dose used is 0.0001 mg. which is about equal to 0.02 mg. of Old Tuberculin. PPD is a highly stand-



ardized stable product and gives fewer pseudo-reactions and less severe reactions than other preparations. With the exceptions noted above, it may be said that a person does not have active tuberculosis if he does not react to 0.0001 mg. of PPD. *It is at once apparent that we have in this preparation in this dosage an extremely valuable aid in differential diagnosis.*

On the other hand, however, we must keep in mind that a reaction to tuberculin does not prove that the person has active tuberculosis; other evidence to support such a conclusion must be presented. Armed with the foregoing information, the family physician may confidently test his entire clientele with the intermediate dose of PPD tuberculin and know that the reactors will be kept down to the lowest number consistent with effectiveness, and that among them will be found upon suitable examination all cases that require treatment.

We seldom know when tuberculous infection takes place but if in his practice the physician will routinely tuberculin test annually those previously found negative, he will know within a year when infection takes place in all who later react. This is important because it is believed that the most dangerous period after infection is within the first year or two, as during this period the infected person is more likely to develop the disease.

#### *X-ray Examination*

It is no longer regarded as good practice to make a diagnosis of tuberculosis from x-ray findings unsupported by other evidence. The chest x-ray study cannot show what bacteriologic factor, if any, is the cause of the abnormalities shown. The roentgenologic report should point out if the x-ray appearance is characteristic of tuberculosis that the final diagnosis must be determined by clinical and laboratory diagnostic means. Yet, it must be remembered that the chest x-ray study will reveal the shadows pulmonary tuberculosis produces as it develops earlier than it can be determined by any other method. But a negative chest x-ray picture is no guaranty that tuberculosis is not present elsewhere, nor even that it is not present in the lung in a stage too early to be detected at that time. In tuberculin positive, symptomless or sputum negative cases serial x-ray pictures at intervals of six weeks to six months are of value in determining whether the lesions seen in the first picture are stationary, progressive or retrogressive.

#### *Managing the Tuberculosis Suspect*

Even though the physician does not intend to engage in a large scale tuberculosis case finding program as outlined above, he will need to know the principles of diagnosis and activity determination. The extensive photofluorographic chest surveys which are being conducted in many places, and will certainly increase in extent, al-

ways result in many referrals to him of people with x-ray evidence of disease requiring study by an understanding and sympathetic physician. The management of these cases during a more or less extended study period will vary according to the apparent condition or need of the individual. The intermediate PPD tuberculin test may settle the matter definitely for one person, a sputum examination in another; another person appearing well and with lesions having an x-ray appearance compatible with arrested tuberculosis may go about his business but be advised to have x-ray pictures every three months or so, and another person definitely ill may be advised to go to bed while the study is being completed.

There will be many problems of adjustment the tuberculosis suspect must face and he is greatly concerned because of them. The physician can be of immense assistance in allaying the fears of the patient and in ascertaining the need for adjustments in his mode of life and to point out, if they are needed, what agencies may help him if their assistance is required.

With the great anti-tuberculosis efforts that may be expected to develop in a final all-out fight to eliminate tuberculosis, every physician should learn the best practices in its detection and treatment. With the very definite encouragement that we have in the increasing value of drug therapy and the considerable probability of the widespread use of B.C.G., (*Bacillus Calmette-Guerin*), as an immunizing agent, it is imperative that the practicing physician prepare himself to offer his community the advantages of the newer knowledges and technics which have recently been developed.

H. C. SCHENCK, M.D., *Director*  
Division of Tuberculosis Control  
Georgia Department of Public Health

#### REFERENCES

1. Nassau E.: The Culture of Tubercle Bacilli from Laryngeal Swabs. Proceedings of the Royal Society of Medicine (London), 34: 397-400 (May) 1941.
2. Quantitative Studies of the Tuberculin Reaction: Michael L. Furcolow et al., Public Health Reports, 56:1082 1941.

#### SWEDEN FINDS DISEASE RATE HIGH AMONG DAY NURSERY CHILDREN

A Swedish social welfare committee, investigating the incidence of disease in state-aided day nurseries, found that nursery children were more susceptible to disease than children who stayed at home, according to the Stockholm correspondent of *The Journal of the American Medical Association*.

Writing in the April 26 issue of *The Journal*, the correspondent states that according to the report "many of the nursery children have had colds for long periods and many have constant fever. Ear infections are far more numerous. Sinus and kidney inflammations have appeared among the nursery children, but not in the control group (children who stayed at home). Bacteriologic studies revealed that certain types of bacteria, which do not ordinarily appear in epidemic form, have caused minor epidemics at the nursery and that children are hardly recovered from one infection before they contract another or are perhaps infected with several types of bacteria simultaneously."



The investigating committee made recommendations for the installation of ultraviolet lamps and the impregnations of floors and textiles with oil to reduce the risk of infection. "With such a large percentage of Swedish mothers out at work every day," states *The Journal* correspondent, "these nurseries are of the utmost importance in the present state of society."

### ALLERGY TO PENICILLIN, ANTITOXIN CONTROLLED BY BENADRYL

Two groups of investigators report the beneficial action of Benadryl in patients who developed allergic reactions to penicillin or antitoxin serum treatment, in the April 26 issue of *The Journal of the American Medical Association*.

Benadryl inhibits the action of histamine, a poison released by the tissues in allergic reactions.

Fifteen of 824 patients who reacted with hives to penicillin were treated with the antihistamine drug by Donald M. Pillsbury, M.D., Director of the Department of Dermatology and Syphilology, Institute for the Study of Venereal Disease of the University of Pennsylvania, Howard F. Steiger, M.D., P. A. Surgeon (R), U. S. Public Health Service, and Thomas E. Gibson, M.D., all of Philadelphia.

The doctors point out that hives and other allergic reactions to penicillin may constitute a serious bar to treatment with this drug. However, with the addition of a drug such as Benadryl and more recently Pyribenzamine, administered simultaneously with penicillin, it may be possible to continue treatment in these patients.

In conclusion they state: "Our experience indicates that (1) penicillin reactions are more frequently encountered in patients who have had repeated courses of this drug; (2) some patients who have had an urticarial reaction to penicillin may tolerate further penicillin treatment, while others may not; (3) skin tests with penicillin are unreliable as a means of predicting the occurrence of reactions to penicillin or further administration of the compound; (4) antihistamine compounds, particularly Benadryl, are useful in controlling penicillin urticaria, and (5) urticarial reactions may at times be persistent and severe."

Another group of investigators—J. Cyril Peterson, M.D., and Lindsay K. Bishop, M.D., from the Department of Pediatrics, Vanderbilt University School of Medicine, Nashville, Tenn.—treated 10 patients with Benadryl who developed serum sickness following the administration of antitoxin for such conditions as meningitis, diphtheria and influenza.

The serum reaction consisted of a rash, vomiting or fever. The doctors state that "in every instance 100 milligrams of the drug completely abolished all manifestations of the serum sickness within a period of two to three hours."

### DDT EFFECTIVE AGAINST HEAD LICE

DDT has proved safe and effective in the treatment of head lice on children, according to the April 26 issue of *The Journal of the American Medical Association*.

One hundred and seventy-three school children were treated by the Texas State Department of Health for head lice with a dust composed of 10 per cent DDT and 90 per cent pyrophyllite, a mineral used for diluting powders.

After application of the dust the child was instructed not to wash the hair for one week. At the end of two weeks a second application of dust was made, and a second examination was made to determine the effects of the insecticide. A third examination was made at the end of four weeks at which time only one of the 173 treated children had lice, and this child admitted having washed his hair the day after the treatment.

### EMORY MEDICAL CLINICS

The yearly Emory Clinics will be resumed June 4, 5, and 6, 1947. Morning sessions will be held at the Classroom Auditorium, Nurses' Building, Colored Grady Hospital. Afternoon sessions will be held at Emory University Hospital. Out-of-town visiting physicians will be luncheon guests of the General Alumni Association on Emory Campus for the three days of the sessions. A "get-together" banquet is planned for the night of June 6. All physicians are invited. If you have any questions you would like discussed at the panels, address same as soon as possible to the program chairman, Dr. Carter Smith, Medical Arts Building, Atlanta. *Plan now to attend.*

The clinical program for this meeting is:

JUNE 4, 1947

#### MORNING SESSION

Colored Grady Hospital

DR. RUSSELL H. OPPENHEIMER, Presiding

- 8:30 An Evaluation of Liver Function Tests.  
Dr. Ebert Van Buren.
- 9:00 Diverticulitis of the Colon.  
Dr. William A. Selman.
- 9:30 The Significance of False Positive Kahn Reactions. Mr. E. L. Webb.
- 10:00 The Magnetic Removal of Foreign Bodies in the Food and Air Passages. Dr. Murdock Eguen.
- 10:30 The Treatment of Syphilis. Dr. Alhert Heyman.
- 11:00 Aspiration Curettage of the Endometrium with Demonstration. Dr. George Williams.
- 12:30 Luncheon Emory University Campus  
(Transportation arranged.).

#### AFTERNOON SESSION

Emory University Hospital

- 2:00-3:20 Peripheral Vascular Disease: Diagnosis and Management. Moderator: Dr. Dan C. Elkin.  
Discussors: Drs. Fred Cooper, Heyman Harris, Charles Ward and Cleve Ward.
- 2:00-3:20 Pediatrics. Moderator: Dr. Roger Dickson.  
Discussors: Drs. Hines Roberts, William L. Funkhouser, Joseph Patterson, William H. Kiser and Laura Lipscomb.
- 3:00-4:50 Cardiology. Moderator: Dr. Bruce Logue.  
Discussors: Drs. Carter Smith, Evert A. Bancker, Jeff Richardson, Parks McGinty, Joe Massee, Hans Weens and Gordon Barrow.
- 3:30-4:50 Obstetrics (Bleeding in Pregnancy).  
Moderator: Dr. John B. Cross.  
Discussors: Drs. Rudolph A. Bartholomew, Ed Colvin, Charles B. Upshaw and B. Hartwell Boyd.

JUNE 5, 1947

#### MORNING SESSION

Colored Grady Hospital

DR. WELDON E. PERSON, Presiding

- 8:30 Fluid, Electrolyte and Protein Balance.  
Dr. John T. Akin, Jr.
- 9:00 Recent Advances in the Treatment of Diabetes Mellitus. Dr. James E. Paullin.
- 9:30 Vagotomy in the Treatment of Peptic Ulcer.  
Drs. David Henry Poer and Charles Holloway.
- 10:00 The Rational of the Use of Folic Acid, Liver and Iron in the Treatment of Anemias.  
Drs. Vernon Powell and Byron J. Hoffman.
- 10:30 Ruptured Peptic Ulcer. Dr. Wadley R. Glenn.
- 11:00 The Use of Thionrea Derivatives in Thyrotoxicosis. Dr. Philip Bondy.

#### AFTERNOON SESSION

Emory University Hospital

- 2:00-3:20 Infectious Chemotherapy and Immunity.  
Moderator: Dr. Paul Beeson.  
Discussors: Drs. Wm. F. Friedewald, Max Michael, Ed Miller, Robert Whipple and Dan Bowdoin.

- 2:00-3:20 Backache. Moderator: Dr. Edgar F. Fincher.  
 Discussors: Drs. Robert P. Kelley, Ed H. Greene,  
 Marion C. Pruitt and Carl Whitaker.
- 3:30-4:50 Allergy. Moderator: Dr. Mason I. Lowance.  
 Discussors: Drs. Clarence Laws, William Crowe,  
 Edgar Dunstan and Charles Stone.
- 3:30-4:50 Surgical Abdomen.  
 Moderator: Dr. Frank Boland.  
 Discussors: Drs. Ira A. Ferguson, John D. Martin  
 and Elbert B. Agner.

JUNE 6, 1947

## MORNING SESSION

Colored Grady Hospital

Dr. JOHN B. FITTS, Presiding

- 8:30 Nephroptosis. Dr. Harold P. McDonald.
- 9:00 Criteria for the Selection of Patients with Hyper-  
 tension for Sympathectomy. Dr. R. Hugh Wood.
- 9:30 Methods of Examination of the Prostate and the  
 Significance of Findings. Dr. Milus K. Bailey.
- 10:00 Angiocardiography. Dr. Hans Weens.
- 10:30 Anomalies of the Genito-Urinary Tract.  
 Dr. Spencer A. Kirkland.
- 11:00 The Use of Shock Therapy in Neuropsychiatric  
 Patients. Dr. Lawrence F. Woolley.
- 12:30 Luncheon Emory University Campus.

## AFTERNOON SESSION

Emory University Hospital

- 2:00-3:20 Carcinoma of the Female Generative Organs.  
 Moderator: Dr. Elliott Scarborough.  
 Discussors: Drs. James L. Campbell, John Den-  
 ton and Walter Holmes.
- 2:00-3:30 Renal Disease.  
 Moderator: Dr. Arthur Merrill.  
 Discussors: Drs. Cyrus Strickler, Jr., William H.  
 Trimble, William Minnich, Abner Golden and  
 Don Beard.
- 3:30-4:50 Carcinoma of the Lip, Tongue, Skin and  
 Breast. Moderator: Dr. Thomas Callahan Davison.  
 Discussors: Drs. William Dohes, Elliott Scarbor-  
 ough, Robert Brown and Calvin Stewart.
- 3:30-4:50 Respiratory Diseases.  
 Moderator: Dr. Bernard Wolff.  
 Discussors: Drs. Rufus Payne, Worth Hobby,  
 Levering Neely and Joe Cruise.

TULAREMIC INFECTION FROM MOTHER TO  
UNBORN CHILD CAUSES ITS DEATH

What may be the first case of death of an unborn child from infection with tularemia or "rabbit fever" from the mother while the woman subsequently recovered from the disease is reported in the current issue of *Archives of Pathology*, published by the American Medical Association.

Tularemia is called "rabbit fever" because almost 90 per cent of human infections result from contact with the infected tissues, body fluids or pelts of rabbits.

Thomas N. Lide, M.D., from the Department of Pathology, Duke University School of Medicine, Durham, N. C., states that a woman in her eighth month of pregnancy was admitted to the hospital because of an ulcer on the finger of her left hand. She also complained of nausea, vomiting after meals and a high temperature.

She recalled that she had prepared a rabbit one week before the onset of her illness, and subsequently during that week had prepared two other rabbits for the table.

The infection became active in the infant about the fourth week of the mother's illness. She had been hospitalized about the 20th day of her illness. A sudden flare-up of her condition on the eighth day of hospitalization suggests that she was reinfected by the infant. On the 11th day the child, apparently dead for several days, was born. The patient rapidly regained health after delivery.

## NEWS ITEMS

Doctors' Day was observed on a national scale on March 30 in tribute to the men who have dedicated their lives to alleviate the sufferings of humanity. The idea was originated by Mrs. C. B. Ahmand, member of the Barrow County Medical Society and the American Medical Auxiliary as Doctors' Day.

March 30 was chosen as the day for the annual observance due to the fact it was the month and the day on which anesthesia was used for the first time by Dr. Crawford W. Long.

Words are too trite to express what we owe to the doctors who minister to our physical needs. In storms, sleet, rain, floods and freezing winds they make their rounds on a twenty-four hour schedule at the beck and call of the sick and the afflicted. They are often physician, counselor and friend and we owe them a debt of gratitude which we can never repay.

The citizens of Winder and Barrow County are indeed proud to pause in the midst of busy lives and pay tribute to our doctors on the day set aside as Doctors' Day. It is a reminder of the debt we owe them. We salute them and hope that they have health, strength and courage in abundance to sustain them in their labors.—*Winder, Georgia News*, March 1947.

\* \* \*

Dr. William Osler Beddingfield, Savannah, was recently elected president of the medical staff of Warren A. Candler Hospital at a dinner meeting held in the hospital dining room. Other officers elected were Dr. Oscar H. Lott, vice-president, and Dr. David B. Fillingim, secretary, the latter being re-elected. Dr. Beddingfield, who was vice-president, succeeds Dr. John Elliott as chief of the hospital staff. An interesting scientific program was held at the meeting.

\* \* \*

The Bulloch-Candler-Evans Counties Medical Society and the Tattnall County Medical Society held a joint meeting at the Jaeckel Hotel, Statesboro, April 9. Dr. Charles Prince of Savannah, specialist in urology, was guest speaker. Discussion was led by Dr. A. B. Daniel of Statesboro. Dr. Elizabeth Fletcher is president, and Dr. John Mooney, Jr. is secretary of the Bulloch-Candler-Evans Counties Medical Society, hosts to the meeting.

\* \* \*

Dr. Tully Talbot Blalock, Atlanta, announces the opening of offices suite 345 Doctors Building, 490 Peachtree Street, N. E., Atlanta. Practice limited to internal medicine and cardiology.

\* \* \*

Dr. Willard Carson, recently graduated from University of Georgia School of Medicine, Augusta, is now associated with Dr. D. Lloyd Wood, at his offices on King Street, Dalton.

\* \* \*

Dr. Ben Hill Clifton, Atlanta, was elected to membership in the American Association for the Study of Goiter at the annual meeting held at the Biltmore Hotel, Atlanta, April 3, 4 and 5.

\* \* \*

Dr. Braswell E. Collins, Waycross, was elected secretary of the Atlantic Coast Line Physicians, Surgeons and Consultants at the close of their annual meeting held in Clearwater, Florida, April 4.

\* \* \*

Dr. William R. Crowe, Atlanta, announces the removal of his office to 355 Doctors Building, North Unit, 490 Peachtree Street, N. E., Atlanta. Practice limited to internal medicine, cardiovascular diseases and allergy.

\* \* \*

The Eighth District Medical Society held its semi-annual meeting at the Douglas Golf Club, April 8. Meeting called to order by Dr. W. W. Turner, Nashville, president; Invocation by Rev. Earl Garbutt, Douglas; Address of Welcome by Dr. Sage Harper, Douglas; Response to Address of Welcome by Dr. J. W. Simmons, Brunswick. Scientific program: "Electrocardiography", Dr. I. Malcolm Gibson, Valdosta; "Complications of



Antirabic Treatment", Dr. T. F. Sellers, Atlanta, Director of Laboratories, Georgia Department of Public Health; Address by Dr. Ralph H. Chaney, Augusta, President of the Medical Association of Georgia; "Acute Cranio-cerebral Injuries", Dr. Ansley Seaman, Waycross; "Recent Advances in the Diagnosis and Treatment of Syphilis", Dr. Albert Heyman, Atlanta; Business Session and Adjournment. Officers are: Dr. W. W. Turner, Nashville, president; Dr. J. M. Hicks, Brunswick, vice-president; and Dr. G. T. Crozier, Valdosta, secretary.

\* \* \*

Dr. J. L. Edenfield, Augusta, announces the opening of offices in the Doctors Building, 1345 Greene Street, Augusta, in association with Dr. F. A. Kennedy, for the practice of medicine.

\* \* \*

Dr. Drew Ferguson, West Point, was recently appointed surgical consultant by the Veterans Administration to work in various hospitals in eastern Alabama. The new duties he has assumed will not interfere with his private practice, but will require him to serve in a consulting capacity when called upon. Dr. Ferguson served with the Emory Unit in Africa, Italy and France during the war, as well as in various posts in the United States.

\* \* \*

Dr. Franklin G. Eldridge, Valdosta, announces the opening of offices at 103 West Brookwood Drive, Valdosta. Practice limited to roentgen diagnosis and roentgen therapy.

\* \* \*

Dr. William N. Etheridge, Atlanta, announces the removal of his office to 231 Doctors Building, North Unit, 478-490 Peachtree Street, N. E., Atlanta. Practice limited to urology.

\* \* \*

Dr. Albert Fisher, Jr., formerly of Macon, announces the opening of offices in the Charles D. Jordan Building, Monticello for the practice of medicine. He is occupying the offices of the late Dr. L. Y. Pittard.

\* \* \*

The Fulton County Medical Society held its monthly dinner meeting at the Academy of Medicine, Atlanta, May 1. Scientific program: "A Case of Epistaxis" Case Report, Drs. T. Sterling Claiborne and Lester A. Brown; "Report on Cancer Detection Clinic" Clinical Talk, Dr. J. L. Campbell and staff; "Mortality Statistics in the Operative Treatment of Gallbladder Disease", Dr. Charles S. Jones.

\* \* \*

Dr. William H. Good, Toccoa surgeon, has been asked to serve for two years as a member of the Board of Reference for the Christian Medical Society, a national organization of Christian physicians with headquarters in Chicago.

\* \* \*

Dr. Thos. P. Goodwyn, Atlanta, orthopedic surgeon, was guest speaker for the Georgia Medical Society, Savannah, at its meeting April 8. His subject was "Review of Diseases in and Around the Hip Joint". The society met at 612 Drayton Street, with Dr. J. C. Metts, president, presiding.

\* \* \*

Dr. Henry D. Holliman, Jr., Atlanta, announces the removal of his office to 332 Doctors Building, 490 Peachtree Street, N. E., Atlanta. Practice limited to urology.

\* \* \*

Dr. J. Kelvin Bleich, Atlanta, announces the removal of his offices to suite 229 Doctors Building, 478-490 Peachtree Street, N. E., Atlanta. Internal medicine.

\* \* \*

Dr. John D. Campbell, Atlanta, announces the removal of his office to 355 Doctors Building, North Unit, 490 Peachtree Street, N. E., Atlanta. Neuropsychiatry.

\* \* \*

The Lamar County Health Department will conduct a Well-Baby Clinic at the courthouse, Barnesville, every

fourth Tuesday. Dr. John Crawford, Barnesville, assisted by Dr. T. O. Vinson, Griffin, medical commissioner of the Tri-County Health Department, Mrs. Myrtle Tomlin, district nurse, and Mrs. Joe B. Adams, county public health nurse, will have charge of the clinic, and all white parents in the county are invited to bring to the clinic their children of the age group from infancy through pre-school age.

\* \* \*

Dr. A. Smoak Marshall, former Roberta physician, announces the opening of his office for the practice of medicine on Central Avenue, Fort Valley.

\* \* \*

Dr. John M. Meadows, Vidalia, retired physician, celebrated his 86th birthday, Sunday, March 13. Dr. Meadows keeps young farming and building homes. He practiced medicine in Vidalia for fifty years.

\* \* \*

Dr. Allen Roberts and Dr. Jessie Morris Roberts, both graduating from the University of Georgia School of Medicine, Augusta, and serving a year's internship at Greenville General Hospital, Greenville, S. C., are now associated with Dr. J. L. Morris in the hospital at Alpharetta, for the practice of medicine. They will open offices in Roswell also.

\* \* \*

Dr. Gordon Pauch, a native of New York, announces the opening of his office in the building occupied by Childs' Drug Store several years ago, Ideal, for the practice of medicine. Ideal has been without a physician since the death of Dr. Lester Lightner.

\* \* \*

Dr. Kirk Shepard, Thomasville, was recently appointed head of the medical department for the Clark Thread Company's new plant now being erected in Thomasville. Dr. Shepard will visit the large main plant in Newark, N. J. to study the work of the medical department in regard to illness and accident prevention procedures.

\* \* \*

The Randolph-Terrell Medical Society and the Woman's Auxiliary dinner meeting in honor of Dr. Floyd S. Rogers, Coleman, was held at the Gay Hotel, Cuthbert, April 11. Dr. Rogers has practiced medicine for fifty years. He graduated from Emory University School of Medicine, Atlanta, in 1897. Dr. J. C. Patterson, Cuthbert, gave a talk on "Fifty Years of Medicine", and Dr. Steve P. Kenyon, Dawson, discussed "Medicine in the Future." The Randolph-Terrell Medical Society presented Dr. Rogers a gold-headed cane in appreciation of his fifty years of service. Dr. F. M. Martin made the presentation on behalf of the society.

\* \* \*

Dr. W. M. Shepard, Adel, one of the best known and highly regarded physicians in Adel and Cook County, and who has practiced medicine for 55 years, announces his retirement. He is in good health but has decided to take a rest now, which he richly deserves.

\* \* \*

The Second District Medical Society held its meeting at the Lynn-Haven Club, Bainbridge, April 10. Program: Call to order by the President, Dr. Chas. E. Zimmerman, Tifton. Address by Dr. Ralph H. Chaney, Augusta, President of the Medical Association of Georgia; Address by Dr. Steve P. Kenyon, Dawson, President-Elect of the Medical Association of Georgia; "Fractures of the Neck and Intertrochanteric Region of the Femur", Dr. S. W. Windham, Dothan, Ala.; "X-ray Studies of the Colon", Dr. R. C. Pendergrass, Americus; "Eclampsia", Dr. R. E. Jones, Tifton; "X-ray Fever of the South", Dr. Mervin B. Wine, Thomasville; "Blood Transfusions", Dr. Barry Bowman, Albany. Officers are: Dr. John P. Tucker, Bainbridge, president, Dr. J. Zeb McDaniel, Albany, vice-president, and Dr. J. C. Brim, Pelham, secretary-treasurer.

\* \* \*

The Woman's Auxiliary to the Second District Medi-



cal Society held its meeting at Bainbridge, April 10. Mrs. Bruce Schaefer, Toccoa, president of the Woman's Auxiliary to the Medical Association of Georgia, was guest speaker. Mrs. Carl S. Pittman, Jr., Tifton, president.

\* \* \*

The Seventh District Medical Society held its meeting at the Woman's Building, Cedartown, April 2, as guests of Polk County Medical Society. Program: Invocation by Rev. J. Foster Young, pastor, First Methodist Church, Cedartown; Address of Welcome by Dr. Howard Hagan, Rockmart. Scientific papers: "Streptomycin in Tuberculosis", Dr. Rufus Payne, Battey State Hospital, Rome; discussed by Dr. John Crenshaw and Dr. H. E. Crow, both of Rome; "Protuded Intervertebral Disks (Lumbar)", Dr. Lester Harbin, Rome, discussed by Dr. P. O. Chaudron, Cedartown and Dr. Oliver Jenkins, Lindale; "Status Asthmaticus", Dr. Hal M. Davison, Atlanta, discussed by Dr. Edward Bosworth, Rome and Dr. F. H. Simonton, Chickamauga; "The Surgical Management of Peptic Ulcers", Dr. David Henry Poer, Atlanta, discussed by Dr. D. Lloyd Wood, Dalton and Dr. M. M. Hagood, Marietta. Officers are: Dr. D. Lloyd Wood, Dalton, president; Dr. R. C. Maddox, Rome, president-elect; Dr. Lee H. Battle, Jr., Rome, secretary-treasurer; and Dr. W. H. Perkinson, Marietta, counselor.

\* \* \*

The Woman's Auxiliary to the Seventh District Medical Society held its meeting at the Youthopia Club, Cedartown, April 2. Program: Welcome, Mrs. C. B. Elliott, Cedartown; Response, Mrs. D. Lloyd Wood, Dalton; Reading of minutes; Reports from County Auxiliaries; New business; Address by Mrs. Bruce Schaefer, Toccoa, president of the Woman's Auxiliary to the Medical Association of Georgia. Officers are: Mrs. W. C. Mitchell, Smyrna, district manager, and Mrs. W. D. Hall, Calhoun, secretary.

\* \* \*

Dr. J. A. Thrash, Columbus, Muscogee County commissioner of health, recently announced that the Columbus school children will receive tuberculosis vaccinations. The program will be instituted by the United States Public Health Service and has received the backing of the Muscogee County Medical Society. Dr. Thrash explained the procedure for the BCG vaccine for tuberculosis of city school children at a meeting of the society. Columbus is one of the first cities chosen for this work. Dr. Clarence Butler, secretary of the society, pointed out. He said this was due to the excellent response of the city in the recent tuberculosis campaign.

\* \* \*

The University of Georgia School of Medicine, Augusta, awarded diplomas to sixty-six members of the senior class at exercises held in the music hall of the Municipal Auditorium, March 31. Diplomas were awarded posthumously to two members of the class who were accidentally asphyxiated on April 17, 1946, when a rubber hose connection to a gas heater in their room became detached while they slept. William Harrison Addy, Jr., Senoia, and Paul Matthews Jones, Middleton, were the victims of the accident. Their diplomas were presented to the parents of the deceased members of the senior class, Mr. and Mrs. William Harrison Addy and Mr. and Mrs. O. D. Jones. The degrees were conferred by Dr. G. Lombard Kelly, Augusta, dean of the medical school. Benjamin G. Garland, Jackson, delivered the class address to the graduates. He was introduced by Dean Kelly.

\* \* \*

Dr. Howell A. Wasden, Jr., formerly of Midville, and graduate of the University of Georgia School of Medicine, Augusta, announces the opening of his office at Pavo for the practice of medicine.

\* \* \*

Dr. Olin West, Nashville, president-elect of the American Medical Association recently announced his resignation because of ill health. The veteran Nashville physician,

long a leading figure in the field of medicine, is 72 years old. He will be succeeded by Dr. Edward L. Bortz of Philadelphia, now vice president of the Association, who will be inaugurated as president at the annual session in Atlantic City, June 9. Dr. West former secretary and general manager of the Association, a post he held for 23 years, was named president-elect in July, 1946, at the meeting in San Francisco.

\* \* \*

Dr. Darrell Ayer, Atlanta, announces his association with Crawford W. Long Memorial Hospital, Atlanta, as director of laboratories and surgical pathology.

\* \* \*

Dr. J. Mason Baird, Atlanta, announces the association with him of Dr. Dale Alford in the practice of ophthalmology, 511 Medical Arts Building, Atlanta.

\* \* \*

The annual meeting of the American Heart Association will be held at the Hotel President, Atlantic City, New Jersey, on June 6-8, 1947, prior to the annual session of the American Medical Association. Members of the medical profession and other interested persons may attend the scientific sessions on June 6 and 7.

\* \* \*

The Bibb County Medical Society held its regular dinner meeting at the S. & S. Cafeteria, Macon, April 1. All members of the Sixth District Medical Society were invited to be guests of the Bibb County Medical Society. Dr. Edgar F. Fincher, Atlanta, presented an interesting paper on "The Management of Head Injuries". Dr. A. M. Phillips, secretary.

\* \* \*

The Georgia Baptist Hospital staff dinner meeting was held in the dining room of the Nurses Home, Atlanta, March 18. The scientific program consisted of two cases of "Carcinoma of the Colon". Dr. A. M. Dimmock, secretary.

\* \* \*

The Crawford W. Long Memorial Hospital staff dinner meeting was held in the hospital dining room, Atlanta, April 10. Scientific program: "Multiple Pelvic Malignancies", Dr. Wadley Glenn and Dr. Harry Hill; "Removal of Penis, Cancerous. Preliminary report", Dr. George Wagnon and Dr. Linton Smith; "Sympathectomy for Vascular Disease", Dr. Charles Dowman.

\* \* \*

Dr. J. Harry Lange, Atlanta, announces the removal of his offices to suite 336 Doctors Building, North unit, 490 Peachtree Street, N. E., Atlanta. Practice limited to pediatrics.

\* \* \*

Dr. Harry R. Lipton, Atlanta, announces the removal of offices to suite 243 Doctors Building, 490 Peachtree Street, N. E., Atlanta. Practice limited to psychiatry and neurology.

\* \* \*

Dr. S. C. Rutland, LaGrange, medical director of the Troup County Board of Health for 22 years, recently resigned. Much progress has been made in the public health field in Troup County since Dr. Rutland was appointed to head the county health board, notably in control of tuberculosis, venereal diseases, malaria, smallpox, regulations governing milk and food sanitation, and in the health records system of the board.

\* \* \*

Dr. D. C. Sirmons, Dahlonga, recently released from the U. S. Army Medical Corps, having served as general and plastic surgeon, announces the opening of his office in the Dahlonga Clinic, Dahlonga, for the practice of medicine and surgery.

\* \* \*

Dr. W. Frank Wells, Atlanta and Hapeville, announces the return from military service of Dr. Henry E. Steadman and their association at suite 310 Medical Arts Building, Atlanta, and Doctors Building, Hapeville.

\* \* \*

Correction—In the March issue of THE JOURNAL was published: Dr. W. G. Crawley, Marietta, would practice

medicine on Roswell Street, Marietta. The announcement should have read "Practice limited to pediatrics".

\* \* \*

The Georgia Baptist Hospital staff dinner meeting was held in the dining room of the Nurses Home, Atlanta, April 15. A. M. Dimmock, secretary.

\* \* \*

The Crawford W. Long Memorial Hospital staff dinner meeting was held in the hospital dining room, Atlanta, May 8. The program consisted of the following case reports: "Imperforate Hymen", Dr. W. R. Thompson and Dr. W. W. Daniel; "Erythroblastosis", Dr. Bolling Gay and Dr. John W. Thompson.

\* \* \*

The Millen Hospital observes twenty-fifth anniversary, and service is honored. Dr. Cleveland Thompson, Millen, opened the Millen Hospital to the public in March 1922. He has been excellently trained in the many details of hospital routine, having had an internship in the University Hospital, Augusta, and two years in The New York Polyclinic Medical School and Hospital, New York City. During the twenty-five years the hospital has served thousands of patients and maintained a high standard recognized beyond the bounds of the state by the medical profession as well as the laity.

Dr. Thompson has expected of his staff always satisfactory service to the sick and has offered scientific and kindly treatment to the young and old, the rich and poor. The motto first seen is: "Do it promptly, do it correctly, make it satisfactory."

In June 1930 when a committee from the American College of Surgeons visited hospitals of only twenty-five beds, they spent an entire day with the Millen Hospital, commending very highly the records, equipment, the nursing staff, and the generally efficient management. The hospital was fully accredited and has remained so, at that time the smallest in the state and the only one between Macon and Savannah.

Those who made impromptu expressions concerning the requirements of an accredited hospital, Dr. Thompson's high attainments as surgeon, student, scholar, as well as his exalted position in organized medicine and his fine qualities of character were as follows: Dr. Miller Byne, Jr., Waynesboro; Dr. John Mooney, Jr., Statesboro; Dr. Edgar Pund, Dr. G. Lombard Kelly, Dr. Ralph H. Chaney, all of Augusta; Dr. Charles Usher, Savannah; Mr. C. F. Lanier, Macon, and Dr. John Rabun, Millen.

#### OBITUARY

Dr. Alexander Rutherford Freeman, aged 42, widely known and highly respected physician of Albany, died at his home following a brief illness March 29, 1947. Born in Selma, Ala., Dr. Freeman moved to Albany when a small child. He graduated from Emory University School of Medicine, Atlanta, in 1929, after which he interned at Emory University Hospital. He served two years in a Boston hospital and then practiced medicine for an industrial firm in Puerto Rico for two years. He returned to Albany in 1934 to establish his practice as a specialist in cardiology. He was a member of the AKK Medical fraternity, the Kappa Sigma social fraternity, and served as president of Caduceus and Aesclepius Medical Honorary Societies when he was at Emory University. He was a past president of the Dougherty County Medical Society, a member of the Medical Association of Georgia, American Medical Association, American Heart Association, and St. Paul's Episcopal Church, Albany. Dr. Freeman is survived by his wife, the former Miss Sara Stafford, Barnesville; one son, John Alex Stafford Freeman, Albany; and his father, John C. Freeman, Albany. Funeral services were held at St. Paul's Episcopal Church, with the Rev. G. Ralph Madson, rector, conducting the service. Burial was in Riverside Cemetery, Albany. Members of the Dougherty County Medical Society served as an honorary escort.

Dr. Amanda J. Mitchell, aged 85, retired physician of Juliette, died after a long illness March 23, 1947. Dr. Mitchell received her medical degree from the Georgia College of Eclectic Medicine and Surgery, Atlanta, in 1909. She is survived by one brother, J. C. Mitchell, Juliette; three sisters, Miss Georgia Mitchell, Mrs. Ed Colvin, both of Juliette, and Mrs. William Smith, Manchester. Funeral services and burial were held at the Cleland family cemetery, near Juliette. Rev. Henry Smith, of the Forsyth Baptist Church officiated.

\* \* \*

Dr. Ralph Methven Thomson, aged 72, retired Savannah physician and poet, died at his home in Garden Homes after a long illness, March 24, 1947. Dr. Thomson was the son of the late Thomas F. Thomson and Margaret Meldrim Thomson of Savannah. He graduated from Tulane University of Louisiana School of Medicine, New Orleans, in 1898. While on his way to a successful career as a physician, practicing in Savannah and Meldrim, Dr. Thomson's hearing failed and he retired from practice. He devoted his spare time to writing verse, most of which first appeared in the Savannah Morning News. He gained an almost nation-wide reputation as a poet and published a volume of his best works about 20 years ago. Surviving are his wife, Mrs. Eulalia Ward Thomson; a sister, Mrs. Earl Dasher, Savannah; three brothers, the Rev. Thomas H. Thomson, Reidsville; Capt. Edward G. Thomson, Savannah, and Meldrim Thomson, Miami. Funeral services were held at the chapel of Sipples' Mortuary by the Rev. Jack Anderson, pastor of Wesley Monumental Methodist Church. Burial was in Bonaventure Cemetery, Savannah.

#### SUMMER DIARRHEA IN BABIES

Casec (calcium caseinate), which is almost wholly a combination of protein and calcium, offers a quickly effective method of treating all types of diarrhea, both in bottle-fed and breast-fed infants. For the former, the carbohydrate is temporarily omitted from the 24-hour formula and replaced with 4 packed level tablespoonfuls of Casec. Within a day or two the diarrhea will usually be arrested, and carbohydrate in the form of Dextri-Maltose may safely be added to the formula and the Casec gradually eliminated. One to three packed level teaspoonfuls of a thin paste of Casec and water, given before each nursing, is well indicated for loose stools in breast-fed babies. For further information, write to Mead Johnson & Company, Evansville 21, Indiana.

*The JOURNAL would like to record the scientific work of Georgia physicians. It earnestly requests, therefore, that each physician in the State who publishes a contribution in some other medical periodical submit an abstract of the article for these columns.*

#### IMPORTANT NOTICE

The American Medical Association will hold its centennial session in Atlantic City, N. J., June 9-13, 1947.

All members of the Medical Association of Georgia whose plans include attendance at this important meeting should do two things immediately: First, be sure to procure hotel accommodations in Atlantic City. If you do not have a reservation, write Dr. Robert A. Bradley, Chairman, Subcommittee on Hotels, 16 Central Pier, Atlantic City, N. J. Second, each member should carry with him, or her, membership cards, both in the Medical Association of Georgia and in the American Medical Association.



# THE JOURNAL OF THE MEDICAL ASSOCIATION OF GEORGIA

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## THROMBOPHLEBITIS AND PHLEBOTHROMBOSIS

*With Special Reference to  
Dicumarol and Heparin Treatment*

J. L. CLEMENTS, JR., M.D.  
*Atlanta*

Intravenous clotting is divided into two definite types, thrombophlebitis and phlebothrombosis. The former has been recognized as a clinical entity<sup>2</sup> since the last part of the nineteenth century and is also known by the terms phlegmasia alba dolens and "milk leg". Phlebothrombosis was first described by Homans<sup>13</sup> in 1934, and was termed a "bland thrombosis" by him. Infection is the outstanding feature of thrombophlebitis and it is characterized by edema of the extremity, elevation of the temperature and redness and pain along the course of the vein. Thrombosis is a more prominent feature than infection in phlebothrombosis, and it is more discreet in its manifestations. The symptoms are slight or no edema, minimal elevation of the temperature, and a slight distention of the superficial veins. Pulmonary emboli are quite frequent with this type of thrombosis, and are often the first evidence of the presence of phlebothrombosis<sup>4</sup>. Allen and his associates<sup>3</sup> maintain that there are all gradations in intravenous clotting between thrombophlebitis and phlebothrombosis, and that all the cases of thrombophlebitis

probably begin as the bland thrombosis described by Homans.

Thrombophlebitis and phlebothrombosis are almost entirely limited to the lower extremities, occurring somewhat more frequently on the left than the right<sup>3</sup>. Reich<sup>25</sup> and Barker<sup>5</sup> found the postoperative incidence of intravenous thrombosis to be approximately 2 per cent of all laparotomies, 3 per cent of all female pelvic operations, 5 per cent of all splenectomies and 1 per cent of surgical patients taken as a whole. Hunter<sup>14</sup> states that over 50 per cent of previously active patients who are forced to total bed rest for any reason have thrombosis of the deep leg veins. Carcinoma, infection, smoking, old age, obesity, cold weather, operative procedures of long duration with massive tissue trauma and resection and operations on the female pelvic organs all have been listed as factors increasing the incidence of intravenous thrombosis<sup>3 5 14</sup>.

The etiology of thrombophlebitis has been described as being due to mechanical trauma, chemical injury or bacterial invasion<sup>22</sup>. The etiology of phlebothrombosis is not so obvious. Ochsner<sup>22</sup> states that the thrombosis in phlebothrombosis is due to alterations in the cellular and fluid elements of the blood causing an increased clotting tendency and is localized by venous stasis. This increased clotting tendency is brought about by a protective mechanism in the body in response to infection, tissue damage, malignancy with rapid infiltration, blood dyscrasia, anemia and cardiovascular diseases<sup>22 25</sup>. Bed rest is the precipitating factor in thrombophlebitis and phlebothrom-



bosis because it produces venous stasis. The venous stasis is greatest in the lower extremities in recumbency, especially with severe illness or postoperatively, because there is an inefficiency of the mechanisms promoting active movement of the venous blood through the lower extremities. Those factors are the tonus of the capillaries, negative pressure in the thorax and contractions of the skeletal muscles<sup>22</sup>. This venous stasis in the lower extremity explains the frequency of the occurrence of venous thrombosis in this location.

The diagnosis of thrombophlebitis is not difficult with the signs of swelling, pain, elevation of temperature and redness along the course of the vein. The diagnosis of phlebothrombosis is more difficult in view of the relative lack of signs and symptoms. Homans' sign<sup>13</sup> is of value in the determination of the presence of a bland thrombus in the deep veins of the legs. A positive Homans' sign consists of pain in the calf produced by dorsiflexion of the foot with the leg extended. Bancroft<sup>4</sup> states that the production of pain by palpating through the gastrocnemius muscle against the tibia with the leg partially flexed is an indication of phlebothrombosis of the deep leg veins. Occasionally the leg involved with a thrombus will be one to two inches larger than the uninvolved leg, but this is subject to many variations. If the thrombus has extended to involve the iliac vessels it is evidenced by a tender pencil-like mass palpable in close proximity to the femoral artery. The use of venography in the diagnosis of phlebothrombosis has been discarded as misleading and because of technical difficulties<sup>2, 3, 11</sup>. In 38 per cent of the cases pulmonary emboli constitute the only evidence of phlebothrombosis<sup>3</sup>.

The importance of intravenous thrombosis of the lower extremity lies chiefly in

the frequency of its being the site of origin of pulmonary emboli. In a study of over 25,000 autopsies McCartney<sup>17</sup> found the incidence of pulmonary embolism to be 11 per cent, with 5 per cent being the primary cause of death. Hunter and his associates<sup>14</sup> found the incidence of fatal emboli from deep leg vein thrombosis to be 3 per cent, with no marked difference in incidence between operative and non-operative patients. The incidence of fatal emboli is markedly increased in the aged, especially those with serious pathologic phenomena<sup>3, 17</sup>. In a study of the fatalities from pulmonary emboli Allen and his associates<sup>3</sup> found that over 80 per cent of the fatalities were over forty years of age. Attention has been called to the decreased incidence and severity of the thromboembolic phenomena in regions with milder climates and in summer as compared to winter<sup>3</sup>.

Homans<sup>13</sup> maintains that pulmonary emboli arise almost exclusively from phlebothrombosis, and that when the phenomenon occurs in a patient with unilateral thrombophlebitis the site of origin of the emboli is in all probability a phlebothrombosis involving the opposite extremity. Other authors<sup>4, 26</sup> disagree with Homans and state that 10 per cent of pulmonary emboli originate from thrombophlebitis and attribute this to friable clots being superimposed on the firmly organized thrombus of thrombophlebitis. Chapman and Linton<sup>7</sup> have pointed out that pulmonary emboli are produced from bland thromboses by such usual activities as defecation, parturition and straining at work or in sports. This is attributed to a breaking off of a portion of the friable clot, or dislodgment of the entire thrombus, by the distention of the veins produced by decreased venous return followed by a rapid overflow with the cessation of the activity.

The classic picture of pulmonary embolism is sudden chest pain, in the lower

chest in 90 per cent of cases<sup>5</sup>, followed by rapid uncomfortable respiration with a cough productive of blood-tinged sputum and a rise in temperature. However, the symptoms may vary from a slight rise in the pulse rate, respiration rate and temperature, recorded on the patient's chart, to sudden respiratory collapse and death from a massive embolus. Ochsner<sup>22</sup> observed that 70 per cent of fatal emboli were preceded by one or more non-fatal episodes of pulmonary embolism.

Much progress has been made in the last decade in the therapy of thrombophlebitis, phlebothrombosis and pulmonary embolism. At the present time there is still much disagreement among authors on this subject as to the safety and value of the various methods of treatment. Since the late nineteenth century it has been known that the institution of early postoperative exercises and ambulation would reduce the incidence of the thromboembolic phenomena<sup>22</sup>. Davis<sup>3</sup> was able to reduce the incidence of fatal emboli from three out of 100 to one out of 800 cases in surgical procedures by the institution of early postoperative exercises. Hunter and his associates<sup>14</sup> reported that the incidence of pulmonary emboli as an autopsy finding to be 35 per cent less after the institution of routine postoperative exercises and early ambulation on postoperative patients. Other authors agree to the value of this procedure and point out that it is of less value than more recent methods, but raises the efficacy of any method when used in conjunction with it<sup>3 11</sup>.

In 1934 Homans<sup>13</sup> reported that ligation of the femoral vein was of great value in the prevention of emboli from bland thromboses in the deep leg veins. Since that time other workers have substantiated the value of venous ligation in the prevention of pulmonary emboli from thromboses in the deep leg veins<sup>1 2 3 11 13 26</sup>. The prognosis is much

better with early ligation as soon as the presence of a thrombus is discovered and the time consumed in recovery is much less<sup>3</sup>. The ideal site of ligation is considered to be the superficial femoral vein just below the point where it joins the profunda femoris vein to become the common femoral vein<sup>1 21</sup>. Cadaver studies have shown that the collateral circulation with ligation at this point is maximal<sup>21</sup>. If the common femoral vein is ligated there is severe edema of the lower extremity. Fine and Starr<sup>11</sup> advocate common femoral vein ligation with the idea that the possibility of embolism from the profunda femoris vein constitutes a greater threat than the edema caused by such a procedure. Allen<sup>1</sup> disagrees with this and points out that there has been only one instance of emboli from the profunda femoris vein out of 816 cases of superficial femoral vein ligation. If the thrombosis has extended to involve the common femoral vein, ligation of the common iliac vein or the inferior vena cava is the procedure of choice<sup>2 11 26</sup>. Allen and his associates<sup>2</sup> reported a more rapid establishment of collateral circulation with less edema after the procedure when a lumbar sympathectomy was done at the time of ligation. A bilateral ligation of the femoral veins is suggested by some authors because of the frequency of bilateral involvement in phlebothrombosis<sup>1 4</sup>. In ligation of the superficial femoral or common femoral veins, the proximal and distal segments should be doubly transfixed and ligated and a portion of the vein removed in order to prevent recanalization, and also to interrupt the sympathetic plexus of the vein wall in order to prevent vasospasm. Removal of the thrombus by aspiration through a glass or metal catheter placed into the vein before ligation is advocated by some authors<sup>2 4</sup>.

Uniformly good results are reported by all who have used this method of treat-

ment<sup>1 2 3 11 13 21 26</sup>. In over 1500 instances of ligation of the veins of the lower extremity, there have been no fatalities from the procedure and complications have been rare. The most serious complication is bleeding from the site of ligation; this can be avoided by care at the time of operation with double transfixation and ligation<sup>3 9</sup>. Lymphorrhea, due to section of the lymphatic tributaries to the femoral nodes, is another complication which can be avoided by making the incision parallel to the course of the femoral artery<sup>3</sup>.

A new field of treatment of intravenous thrombosis was opened by Murray<sup>18</sup> in 1938 and Jorpes<sup>15</sup> in 1939 by their recommendation of the use of the anticoagulant heparin as a mode of treatment of phlebothrombosis and thrombophlebitis. Heparin is an antiprothrombin acting in the peripheral circulation to inhibit the formation of prothrombin in the process of clotting of the blood and is probably a normal constituent of the blood in small quantities<sup>15</sup>. By this action it prevents intravenous thrombus formation, even with an increased clotting tendency of the blood. If venous thrombosis is already present, heparin does not dissolve the clot but prevents further extension by the prevention of fresh thrombus formation and allows the thrombus to organize and become firm. Heparin lessens the chances of pulmonary embolism by preventing the formation of fresh thrombi which are friable and more likely to break off<sup>18</sup>.

The administration of heparin is difficult, requiring much care and observation of the patient. Murray and Best<sup>20</sup> described their method of heparin administration in 1938 and it is the method most frequently used. They recommend the continuous intravenous administration of normal saline containing 10 mg. of purified heparin in 100 cc. of the saline solution. The rate of flow of the

heparin solution should be regulated at such a rate that the coagulation time of the blood is maintained at fifteen minutes, approximately three times the normal value. Coagulation time of the blood must be determined every three or four hours, night and day, throughout the time heparin is being administered. This is necessary in order to maintain the optimum coagulation time and to prevent the coagulation time from reaching hemorrhagic levels. Walker<sup>27</sup> recommends the intramuscular administration of heparin in 0.5 per cent chlorobutanol as a preservative. When 50 mg. of heparin are administered every two hours in this way he states that the coagulation time is maintained within the therapeutic range.

In 1944 Loewe<sup>28</sup> advocated the administration of heparin in Pitkin's menstruum as a vehicle. Pitkin's menstruum is a gel made from gelatin, acetic acid, dextrose and water and may be used as a vehicle for any water soluble drug administered intramuscularly or subcutaneously. Vasoconstricting drugs may be included in Pitkin's menstruum to slow absorption. Loewe reported that 200 mg. of heparin in 2 cc. of the menstruum administered subcutaneously would maintain the coagulation time within the therapeutic range for 24 to 72 hours. He also reported the treatment of 15 cases by this method with good results. At the present time this Pitkin's menstruum-heparin mixture is available only for experimental use.

Murray and Best<sup>18 19 20</sup> report good results with the use of heparin therapeutically and prophylactically, with few hemorrhagic complications. Allen<sup>3</sup> states that the use of heparin is of value prophylactically after venous ligation. Heparin is non-toxic and the chief danger in its use lies in the suppression of the clotting mechanism of the blood to a hemorrhagic level. This can be quickly overcome by the parenteral administration of benzidine or protamine<sup>27</sup>. The



chief disadvantages of the use of heparin are the high cost of the drug, difficulty and inconvenience of administration, and the danger of hemorrhage.

In 1941 Link and his associates<sup>16</sup> isolated and synthesized 3,3' methylenebis (4 hydroxycoumarin), or dicumarol, as the hemorrhagic agent in spoiled sweet clover. They recommended the use of this new anticoagulant in the treatment of venous thrombosis and pulmonary embolism. The effects of dicumarol are the same as heparin, slowing the clotting mechanism of the blood with the prevention of thrombosis and allowing already formed clots to organize. The site of action is different, however, since it inhibits the liver in the formation of prothrombin from vitamin K<sup>10</sup>. Dicumarol therapy is advantageous over that of heparin in that it may be given orally, has a more prolonged action and is less expensive<sup>12</sup>.

The method of administration of dicumarol is relatively simple as compared to that of heparin. Reich<sup>25</sup> and Barker<sup>6</sup> recommended the following method of administration. A prothrombin time is determined before the administration is begun, then 300 mg. of dicumarol are given orally. On each succeeding day 150 to 200 mg. of the drug are given after a prothrombin time determination is done and the prothrombin time is shown to be above 20 per cent of normal. If the prothrombin time is below 20 per cent the dosage is discontinued and begun again when the prothrombin time rises above 20 per cent. A daily prothrombin time is an absolute necessity with dicumarol medication. The quick method of serum prothrombin time determination is the method of choice<sup>6 19</sup>. Because of the variability of the thromboplastin used in this method a diluted control specimen from a normal individual is determined along with the specimen from the patient and the results are reported as 10 per cent, 20 per cent, 30

per cent or 100 per cent of normal<sup>6</sup>. The ideal time of administration of dicumarol as a prophylactic measure is from 60 to 72 hours postoperatively<sup>8</sup>. If the thromboembolic phenomenon is already present Barker<sup>6</sup> recommends the administration of heparin with the dicumarol for its immediate effects, discontinuing its administration when the prothrombin time reaches 20 per cent, and then maintaining the patient on dicumarol. After the cessation of dicumarol therapy the patient continues to have a lowered prothrombin time for two to ten days<sup>15</sup>.

In a controlled series of 1000 patients receiving dicumarol therapy Barker<sup>6</sup> reported a decreased incidence of subsequent emboli from 10.6 to 2.9 per cent, and a decreased incidence of fatal emboli from 5.7 per cent to no fatalities. He also reported that in the prophylactic use of dicumarol there was no morbidity or mortality in contrast to the control series with 4 per cent thromboembolic phenomena and 0.7 per cent fatal emboli. Reich<sup>25</sup> reported the treatment of 34 surgical patients with dicumarol with no fatalities and good results. He also reported good results in 202 patients treated prophylactically. Allen<sup>1</sup> states that the drug is of excellent therapeutic value but that the many contraindications narrow its field of usefulness. He also recommends its use in small doses prophylactically after venous ligation.

Dicumarol has the disadvantages of a 24 to 48 hour latent period after administration, a persistence of the lowered prothrombin time after its discontinuation and the need of a prothrombin time determination every day with its administration. As with heparin there is no toxicity of the drug and the only danger of its use lies in the production of a greatly suppressed clotting mechanism with hemorrhage. Patients have been maintained as long as three months

with prothrombin times of 20 to 30 per cent of normal with no ill effects<sup>6</sup>. Barker<sup>6</sup> reported the incidence of hemorrhage in over 2500 patients treated with dicumarol to be 3.9 per cent minor episodes and 2.5 per cent major episodes, with no fatalities from the hemorrhage. The treatment of a lowered prothrombin time with hemorrhage consists of repeated transfusions with freshly-drawn citrated blood until the prothrombin time is above the dangerous level and large doses of menadione bisulfate, synthetic vitamin K, intravenously<sup>8 25</sup>. The contraindications to dicumarol therapy limit its field of usefulness and are the following<sup>1 6</sup>:

1. Liver disease, including jaundice.
2. Kidney disease.
3. Diabetes mellitus.
4. Hemorrhagic diatheses—purpura, hemophilia, etc.
5. Hyperthyroidism.
6. Patients receiving salicylate therapy.
7. Premature arteriosclerosis.
8. Recent surgery, or trauma to the chest or the nervous system.
9. Patients with a prothrombin time of over 25 seconds.
10. Patients with planned multiple stage operations.
11. Minor surgical procedures and cases suited for early ambulation.

Dicumarol should be given with caution in the following instances<sup>6</sup>:

1. Patients with open and ulcerating wounds and potential bleeding surfaces.
2. Vomiting due to gastric or intestinal obstruction.
3. Continual or repeated gastric or intestinal drainage.
4. Dietary or nutritional deficiencies.

When used with careful observation and in the absence of contraindicating conditions, dicumarol is a safe drug, and of value in the treatment and prevention of phlebothrombosis, thrombophlebitis and pulmonary embolism.

No other condition lends itself to such good prophylaxis as venous thrombosis and pulmonary embolism<sup>22</sup>. By a careful evaluation of the patient with special reference to the predisposing and precipitating factors cited earlier in this paper, the likelihood of the development of venous thrombosis can be determined and necessary measures instituted for its prevention<sup>1 6 25</sup>.

Such measures as the Trendelenburg position, deep breathing exercises, frequent turning of the postoperative patient, reduction of weight of the obese patient for an elective procedure, and the avoidance of tobacco, can be instituted in every patient with little trouble and have been found of value in the prevention of venous thrombosis<sup>6 25</sup>. Ochsner<sup>23</sup> advocates the use of paravertebral novocain block of the sympathetic supply to the legs as a prophylactic measure and also as the treatment of an already formed clot. Anti-coagulants<sup>6 8 10 15 18 19 20 27</sup> and superficial femoral vein ligation<sup>1 2 3 26</sup> both have been advocated as prophylactic measures.

### Summary

The more recent concepts of thrombophlebitis, phlebothrombosis and pulmonary embolism have been presented in this paper. The methods and problems of their treatment have been considered. Exercise and early ambulation, venous ligation and anti-coagulant therapy have been recommended as methods of treatment. All these methods are of value when used with their proper indications and in the hands of those experienced with their use.

### BIBLIOGRAPHY

1. Allen, A. W.: Thrombosis and Embolism, Bull. New York Acad. Med. 22:169-1946.
2. Allen, A. W.; Linton, R. R., and Donaldson, G. A.: Thrombosis and Embolism, Ann. Surg. 118:728, 1943.
3. Allen, A. W.; Linton, R. R., and Donaldson, G. A.: Venous Thrombosis and Pulmonary Embolism, J. A. M. A. 128:397, 1945.
4. Bancroft, F. W.: Phlebothrombosis, S. Clin. North America 25:325, 1945.
5. Barker, N. W.; Hygaord, K., Walter, W., and Priestly, I.: Statistical Study of Pulmonary Emboli, Proc. Staff Meet., Mayo Clin. 15:769, 1940.
6. Barker, N. W.; Cromer, H. E.; Horn, M., and Waigh, J. W.: The Use of Dicumarol in the Prevention of Post-operative Thrombosis, Surgery 17:207, 1945.
7. Chapman, E. M., and Linton, R. R.: Mode of Production of Pulmonary Emboli, J. A. M. A. 129:196, 1945.
8. Daughtry, D. C.: Dicumarol in Surgery, Am. J. Surg. 68:80, 1945.
9. Dennis, C.: Disaster Following Femoral Vein Ligation, Surgery 17:264, 1945.
10. Eckstan, E. E.: The Clinical Use of Dicumarol, Minn. State Med. 27:455, 1944.
11. Fine, J., and Starr, A.: Surgical Therapy of Venous Thrombosis of the Lower Extremities, Surgery 17:218, 1945.
12. Geffer, W. T.; Kramer, T.; David, W., and Reinhold, J. G.: Clinical Experience with Dicumarol, Am. Heart J. 28:321, 1944.
13. Homans, J.: Thrombosis of the Deep Leg Veins of the Lower Leg Causing Pulmonary Embolism, New England J. Med. 211:993, 1934.
14. Hunter, W. C.; Krygier, J.; Kennedy, J., and Sneed, V.: Etiology of Thrombosis of Deep Leg Veins, Surgery 17:178, 1945.
15. Jorpes, J. E.: Heparin, Its Chemistry, Physiology and Application in Medicine, London, Oxford University Press, H. Milford, 1939.

16. Link, K. P.; Stahman, M. A.; Huebner, C. F., and Campbell, H. A.: Studies on the Hemorrhagic Sweet Clover Disease, *J. Biol. Chem.* 138:21 and 513, 1941.
17. McCartney, J. S.: Postoperative Pulmonary Embolism, *Surgery* 17:191, 1945.
18. Murray, G. D.: Heparin in Thrombosis and Embolism, *Brit. J. Surg.* 27:567, 1940.
19. Murray, G. D., and Best, C. H.: The Use of Heparin in Thromboses, *Ann. Surg.* 108, 163, 1938.
20. Murray, G. D., and Best, C. H.: Heparin and Thrombosis, *J. A. M. A.* 110:118, 1938.
21. Northway, R. O., and Buxton, R. W.: Ligation of the Inferior Vena Cava, *Surgery* 18:85, 1945.
22. Ochshner, A.: Intravenous Clotting, *Surgery* 17:240, 1945.
23. Ochshner, A., and DeBaakey, M.: Treatment of Thrombophlebitis by Novocain Block of Sympathetics, *Surgery* 5:491, 1939.
24. Ochshner, A., and DeBaakey, M.: Therapeutic Considerations of Thrombophlebitis and Phlebothrombosis, *New England J. Med.* 225:207, 1941.
25. Reich, C.; Yahr, M., and Eggers, C.: Dicumarol in the Prevention of Postoperative Thrombosis and Pulmonary Embolism, *Surgery* 18:238, 1945.
26. Veal, J. R., and Hussey, H. H.: Surgery of Deep Venous Thrombosis of the Lower Extremity, *Surgery* 17:218, 1945.
27. Walker, J.: Efficacy of Heparin Administered by Intravenous, Intramuscular and Subcutaneous Routes, *Surgery* 17:54, 1945.
28. Loewe, L., and Rosenblatt, P.: A New Practical Method for Subcutaneous Administration of Heparin, *Am. J. Med. Sc.* 208:54, 1944.

## CONGENITAL ANOMALIES OF THE LOWER GASTROINTESTINAL TRACT CAUSING OBSTRUCTION

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Congenital anomalies of the lower gastrointestinal tract causing obstruction are fairly uncommon. Cohen<sup>1</sup> states that in 6000 births at the New York Jewish Maternity Center there were only 6 cases. It is very important that these lesions be recognized early as the best time for operation is within the first 48 hours of life<sup>2</sup>. Up until 1927 the authorities were unanimous in predicting a fatal outcome to all cases of congenital intestinal obstruction<sup>3 4 5</sup>. The first successful operation for congenital obstruction was performed by Ernst<sup>6</sup> in 1916. After this there were several cases reported, but in 1927 there were numerous reports of successful surgery to relieve the condition<sup>7 8 9</sup>. Ladd<sup>10</sup> in 1933 reported 60 cases with a recovery rate of 28 per cent. Since that time, with the aid of improved technic, better parenteral fluid balance,

earlier diagnosis, and chemotherapy, the recovery rate has been higher<sup>2</sup>. The distribution of the obstruction in 194 of Birgfield's cases, as cited by Cohen<sup>1</sup>, was: duodenum 30 per cent, small intestine 53 per cent and colon 17 per cent. The location of the obstruction has bearing on the prognosis, with lesions in the duodenum carrying a much better prognosis than those farther down<sup>2</sup>. Whenever the surgeon operates for a congenital obstruction of the small bowel he must always keep in mind the fact that they are often multiple, 15 to 25 per cent according to some authors<sup>11 12</sup>. In the experience of Cohen<sup>1</sup>, multiple lesions of the lower gastrointestinal tract are much more common in patients with atresia of ileum and colon and less common in patients with atresia of the duodenum. Often malrotation of the gut is associated with the atresic lesions<sup>13</sup>. Other congenital anomalies are frequently seen in children. The most commonly associated condition is Mongolism<sup>14</sup>. Polyhydramnios in the mother is also often a concomitant feature<sup>13 15</sup>.

The methods of diagnosis and treatment of the various causes of congenital obstruction will be taken up in more detail under each topic.

### *Embryology*

In order to understand the congenital obstructions in the lower gastrointestinal tract, it is necessary to have some knowledge of the embryological development of this organ.

The digestive canal arises from an internal tube of entoderm and a surrounding layer of mesoderm. The entoderm becomes specialized into the epithelial lining of the gut and into the various digestive glands of the intestinal tract, while the primitive mesoderm invests the entodermal tube and becomes the various muscular and connective tissue layer of the gut<sup>16</sup>. This simple

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digestive tube is attached to and communicates with the yolk sac at about its midpoint. This attachment causes a slight ventral bending of the gut which is designed to become more marked as the gut grows. At about the 5-9 mm. stage the gut attachment to the yolk sac is discontinued, but there is often an outpouching of the intestine at this point which remains into adult life. About this time also it is possible to recognize another pouching out of the gut below the above mentioned diverticulum. This pouch is destined to become the cecum and marks the point of separation of the large and small bowel. With the exception of the first and second portions of the duodenum, the distal half of the transverse colon and the descending colon, the small intestine and the large intestine are derived from the primitive midgut, which gets its blood supply from the superior mesenteric artery. The digestive tube grows faster than the body and the ventral loop becomes more marked, with the superior mesenteric artery running between the cephalic and the caudal limbs of the loop. The gut now begins an counter-clockwise rotation with the superior mesenteric artery as its axis. The cephalic limb moves down and to the right, while the caudal limb moves up and to the left. This rotating movement is thought to be caused by either a spiral growth of the longitudinal muscular layer<sup>17</sup> or by the change in position of the left umbilical vein which is dragged to the right and caudally by the expanding right lobe of the liver which would force the cephalic limb down and to the right<sup>18</sup>. During the same period the gut has grown too fast to be accommodated in the abdomen, and it is pushed out into the umbilical cord. The gut continues to grow rapidly and becomes coiled on itself but still retains the primary rotation. After about three weeks of extra-abdominal growth the abdominal cavity enlarges

enough to accommodate the gut, and it is pulled back into the abdomen, probably by its mesenteric attachments. The small gut re-enters first and the duodenum maintains its relationship behind the superior mesenteric artery. The cecal area is the last to re-enter the abdomen, and when it does there is an effort for the tube to straighten out and the cecum is thrown into the right lower quadrant where it becomes fixed<sup>19</sup>. The abdominal cavity is now growing more rapidly than the liver, which begins an ascent. It pulls the colon up after it and forms the hepatic flexure. Thus the final rotation and arrangement of the gut is complete.

The lining of the duodenum begins to proliferate at the sixth week and completely occludes the lumen forming the gut into a solid tube. The lumen is re-established by a process of vacuolization which run together and establish continuity. A similar process is occurring throughout the rest of the gut to a less marked degree. The villi and intestinal glands are added about this time, eight weeks, and essentials of gut development are complete.

#### *Congenital Atresia and Stenosis*

*Atresia*—Although this condition is rare, the recent advances made in its surgical treatment make it imperative that atresias of the gut be promptly diagnosed and treated<sup>20</sup>. Recall from the section on embryology that at about the tenth week the gut becomes a solid tube and that its lumen is re-established by a process of vacuolization. If something goes wrong with this process, two things can happen: a segment of the gut may not become vacuolated and persist as a solid tube, or the vacuoles may not break through to each other and a thin diaphragm will then separate the two segments of gut. Brand-Sutton in 1899 said that the most anomalies in the gut would be at the site of the most complex embryologic development. This seems to be brought out because

most of the atresias of the gut take place at the terminal ileum or the duodenum, the two places where growth is very complex.

After the child is born and the gut is put to work, the proximal segment becomes greatly distended and cuts off effective blood flow to the bowel wall so that it becomes ischemic and there is danger of necrosis with its concomitant complications. "Any intestinal atresia which has not been relieved by the third day of life is in imminent danger of perforation"<sup>20</sup>.

Babies with intestinal atresia always have symptoms on the first day of life. They begin to vomit during or after the first feeding and become progressively worse as subsequent feedings are taken. The vomitus almost always contains bile, as atresias are rare above the ampulla of Vater. His stools are smaller in amount, drier in consistency and more greyish-green in color than are normal meconium stools. Microscopic examination fails to reveal the cornified epithelial cells which all fetuses swallow in utero—Faber's test<sup>21</sup>. The child continues to vomit and shows signs of marked dehydration. He may become distended or not, according to how effective his vomiting has been. When the atresia is high, only the stomach and proximal duodenum become distended, but if it is in the ileum or colon the entire proximal gut will be filled with gas. The vomitus in high obstruction is either curded milk or thin yellow fluid, while in low obstructions it is fecal in appearance and malodorous. Plain roentgenograms of the abdomen taken from various angles are of the most help in the diagnosis of these cases. The normal newborn has air throughout his gastrointestinal tract<sup>22,23</sup>, but in the children with atresias there is never any air seen beyond the obstruction. Barium should probably never be used because of the danger of aspiration of the material when the child vomits, with serious

pulmonary complications and because of the difficulty the child will have passing the barium once the continuity of the gut is re-established.

All the children with this condition will die if not operated on, therefore the child should be put in the best possible condition, hydrated etc., and explored as soon as the diagnosis is made. The operation of choice is a side-to-side anastomosis with a primary closure of the proximal and distal segments of gut<sup>2,20</sup>. Ladd and Gross think it important to distend the distal loop of bowel with saline or mineral oil before complete closure, so that it is easier for material to pass on down the gut and not cause undue tension on the anastomosis. It is always very important to search for multiple areas of atresia when the gut is open because they occur in 15 to 25 per cent of the cases as previously noted. Ileostomy is always contraindicated as the baby's fluid and electrolyte balance always become badly upset and the mortality is 100 per cent when this is performed. The best results are obtained when the obstruction is high, presumably because the lower gut has a drier, firmer material passing through it which tends to disrupt the anastomosis and also because the bacterial count is higher in the lower gut and peritonitis is more likely to occur. The overall recovery rate in cases of atresia is about 25 per cent. The babies who recover apparently develop normally and get along as well as other children. If considerable amounts of the absorbing gut are removed, rickets may develop<sup>20</sup>. This complication can be controlled by large amounts of calcium and vitamin D therapy.

*Stenosis*—Many of the preceding remarks on atresia may also be applied to stenosis. Both are really degrees of the same process: in atresia the lumen is completely occluded, while in stenosis it is only narrowed. The embryology is very similar

to that of atresia in that when the gut recanalizes in the embryo, the vacuoles may just break through to join each other and leave a great part of the separating membrane intact. This then develops into a narrowed area of the gut. The areas of stenosis are much more common in the duodenum than in the rest of the gut. Fifty per cent of the narrowed areas are in the duodenum, 33 per cent are in the ileum and the remaining 17 per cent are scattered throughout the rest of the gut. The size of the stenosis may vary from an opening only large enough to admit a probe to only a slight narrowing of the gut.

The symptoms of stenosis usually come on in the first week of life and are vomiting and dehydration. The stomach and proximal gut may be distended, but there is also some air beyond the narrowed area. Examination of the meconium reveals a few cornified epithelial cells and after feeding a few milk curds, showing that at least some material is passing through the gut. Barium feedings may be helpful in these cases, but should probably not be used as it might completely block the opening in the gut. When the stenosis is not marked it may not be recognized until the child is older. The story is that the child has always been a feeding problem, having had vague stomach complaints and often vomiting or regurgitating his food. He has usually been carried to many doctors for regulation of his feeding before the condition is thought of and diagnosed<sup>25</sup>.

Surgically, two methods of treatment have been brought forth. There have been attempts to dilate the stenotic area by opening the gut, introducing hemostats into the narrowing and spreading them. This procedure is difficult and has not proven to be satisfactory. When the gut is opened below the stenosis, it is so small that the opening is very difficult to close. When opened above

the distention of the gut often blows out the suture, with an ensuing peritonitis. The stenotic area is usually composed of tough fibrous tissue, and the wall of the gut is torn in an attempt to stretch the opening<sup>29</sup>. A short-circuiting operation is the one of choice in this condition, with a primary side-to-side anastomosis of the proximal and distal segments of the gut. In all these cases the infant should be deflated for several days by constant stomach suction. His nutrition and hydration should be kept up parenterally. Generally speaking, the higher the stenosis the better the prognosis. Ladd and Gross give an overall recovery rate of about 50 per cent in their book<sup>20</sup>.

#### *Malrotation of the Gut*

As was seen in the section on embryology, the rotation of the gut is a complicated matter and arrest in any stage of development may cause abnormalities in function. The abnormalities usually found which cause obstruction and those to be discussed here are: an incompletely rotated cecum<sup>15 26</sup>, a lack of attachment of the dorsal mesentery of the small gut along the posterior abdominal wall<sup>15 27</sup>, and a completely rotated cecum which is mobile and unattached.

When the cecum is incompletely rotated, it is usually found in the right upper quadrant. Bands of reflected peritoneum run from the cecum to the right posterior abdominal wall across the descending duodenum, and these may be taut enough to cause symptoms. In other cases the cecum has proceeded farther in its rotation and lies directly on the duodenum and causes obstruction<sup>20</sup>. In association with these abnormal positions of the cecum the mesentery of the small gut lacks its normal dorsal attachment and is attached only by a rudimentary root which is adjacent to the superior mesenteric artery. Thus it becomes very easy for the long midgut, with



a very small dorsal attachment, to become rotated on its mesentery and cause obstruction. The volvulus is usually in a clockwise fashion. Small mesenteric attachment of the gut is usually associated with an incompletely rotated cecum, so it is very important to look for this after a volvulus has been unwound<sup>13</sup>. The cecum may be normally placed but unattached; this condition is only a modification of the incompletely rotated cecum and is often associated with an incompletely attached small gut.

Of the individuals who develop symptoms, 50 per cent of them develop symptoms within the first three weeks of life. The symptoms are those of high intestinal obstruction, with vomiting, dehydration and distention being prominent. This condition might be confused with atresia or stenosis, but since the treatment for both conditions is immediate surgical exploration the differential diagnosis is not of great importance<sup>20</sup>. In older children there is usually a history of repeated gastrointestinal upsets, with vomiting, abdominal pain and continuous nausea. They continue throughout life with these intermittent symptoms, or they may suddenly completely obstruct and come in with acute intestinal obstruction.

The clinical picture should suggest the diagnosis but often x-ray studies are of considerable value. The single film will show a dilated proximal bowel, and if the volvulus has been present for several days the bacteria of the gut may have formed enough gas to distend the twisted loop of bowel. A barium enema is of considerable value, showing the anomalous position of the cecum when it is present<sup>28</sup>. In older children with gastrointestinal complaints suggestive of this condition, extensive investigation should be carried out. Often, between attacks, the only abnormality it is possible to determine is the malrotated

cecum. In recent years several children with the clinical picture of celiac disease have been found to have malrotations of the gut, and their symptoms were completely cured when the intermittent obstruction was corrected<sup>20</sup>.

The operative treatment as described by Ladd and Gross consists, in general, of opening the abdomen through a right paramedian incision and, when the ascending and transverse colon present, the cause of the obstruction is recognized to be a displaced cecum itself or by taut peritoneal bands. The cecum is mobilized by cutting the posterior parietal peritoneum close to the right of the cecum until the entire descending duodenum is visualized; the free cecum is then pushed across the abdomen to the left. This procedure does not attempt to replace normal relation but only releases the obstruction. The operation is aseptic and superior to any short-circuiting procedure which might be tried. If the small gut presents, and is bluish and discolored and the right half of the colon is not seen, a small gut volvulus is suspected. Often the gut becomes wrapped around the base of the mesentery and it seems as if a piece of gut were herniating through the mesentery. When the gut is pulled out onto the abdominal wall and the volvulus unwound, normal-like color immediately returns to the intestine. Now is the time to see if this is the only obstruction present, as frequently, as previously noted, there is malrotation of the cecum associated. Failure to recognize and treat the cecal anomaly has caused many deaths when the volvulus was completely released but the cecum or peritoneal bands continued to obstruct the duodenum.

Up until the present time the mortality of this condition has been appallingly high. It is hoped that with earlier recognition of the condition, understanding of the condi-

tion, and better technic, pre- and post-operative care, the mortality can be significantly lowered.

The occasional child who is accidentally found to have a malrotated gut but who has no symptoms should be left strictly alone and should not come to surgery unless he develops definite symptoms of acute or chronic obstruction<sup>29</sup>.

### Summary

1. Prior to 1927 congenital intestinal obstruction carried a 100 per cent mortality, but since then operative methods have been devised that give a 25 to 40 per cent survival rate.
2. Congenital atresia, stenosis, and malrotation of the lower gastrointestinal tract have been discussed briefly as to development, diagnosis, and treatment.
3. Any child with a congenital intestinal obstruction should be explored as soon as possible. The mortality rate is much less if the operation is done within first 48 hours.

### BIBLIOGRAPHY

1. Cohen, P.: Congenital Intestinal Obstruction, *Am. J. Dis. Child.* 61:135.
2. Ladd, W. E.: Surgery in Early Life, *J. Mt. Sinai Hosp.* 10:389.
3. Von Reiss, A. R.: Diseases of New Born, New York, William Wood and Company, 1920, pp. 225-260.
4. Holt, L. E.: Diseases of Infancy and Childhood, ed. 7, New York, D. Appleton-Century Company, 1916, p. 118.
5. Thorndyke, A.: Duodenal Atresias and Stenoses, *Boston M. & S. J.* 196:763.
6. Ernst, W. P.: A Case of Congenital Atresia of the Duodenum Treated by Operation, *Brit. M. J.* 1:644, 1916.
7. Loitman, C.: Congenital Occlusion of Bowel, *Boston M. & S. J.* 197:21.
8. Sweet, G. B., and Robertson, C.: Case Congenital Atresia of the Jejunum, *Arch. Dis. Childhood* 2:186.
9. Weeks and Delprat: Congenital Intestinal Obstruction, *S. Clin. North America* 7:1193.
10. Ladd, W. E.: Congenital Obstruction Small Intestine, *J. A. M. A.* 101:1453.
11. Davis, D. L., and Poynter, C. W. M.: Congenital Occlusion of the Intestine with a Report of Multiple Atresia of Jejunum, *Surg., Gynec. & Obst.* 34:35.
12. Richter, H. M.: *Abt's Pediatrics*, Philadelphia, W. B. Saunders Company, Vol. 3, p. 512.
13. McIntosh and Donovan: Disturbances of Rotation of the Intestinal Tract, *Am. J. Dis. Child.* 57:116.
14. Jones, T. B., and Morton, J. J.: Congenital Malformation of the Intestine, *Am. J. Surg.* 39:382.
15. Gardner and Hart, D.: Anomalies Intestinal Rotation As A Cause of Intestinal Obstruction, *Arch. Surg.* 29:942.
16. Carey, L. B.: Developmental Anatomy, Philadelphia, W. B. Saunders Company, 1940, p. 213.
17. Carey, E. J.: Structure and Junction of Small Intestine, *Anat. Rec.* 21:189.
18. Dott, W. M.: Anomalies of Intestinal Rotation, *Brit. J. Surg.* 11:251.
19. Hunter, R. H.: Development of the Ascending Colon, *J. Anat.* 62:297.
20. Ladd and Gross: Abdominal Surgery of Infancy and Childhood, Philadelphia, W. B. Saunders Company, 1941, p. 25.
21. Faber, S.: Congenital Atresia of the Alimentary Tract, Diagnosed by Microscopic Examination of the Meconium, *J. A. M. A.* 100:1753.

22. Golden, R.: Diagnostic Roentgenology, New York, Thomas Nelson and Sons, 1936, p. 302.
23. Snow, W.: Postural Treatment of Infantile Colic, *Am. J. Roentgenol.* 38:779.
24. Webb, C. H., and Wangenstein, O. H.: Congenital Intestinal Atresia, *Am. J. Dis. Child.* 41:262.
25. Ladd, W. E.: Congenital Duodenal Obstruction, *Surgery* 1:878.
26. Raymond, H. E., and Dragstedt, L. R.: Anomalies of Intestinal Obstruction, *Surg., Gynec. & Obst.* 53:316.
27. Martin, J. D.: Non-fixed Mesentery to Small Gut, *Am. J. Surg.* 37:511.
28. Rubin, E. L.: Radiological Aspects of Anomalies of Intestinal Rotation, *Lancet*, 2:1222, 1935.
29. Reisman, H. A.: Congenital Obstruction Gastrointestinal Tract, *J. Pediat.* 10:622.

## VAGOTOMY IN THE TREATMENT OF PEPTIC ULCER

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For many years there has been much argument about the exact etiology of peptic ulcer and, as would be expected, many theories have been formulated. The most prominent theories are: (a) the psychogenic; (b) the inflammatory (gastritis and duodenitis as forerunners); (c) the functional or physiologic (hyperactive secretory and motor functions plus vascular spasm), and (d) the ductless glandular, as in altered activity of the pituitary or adrenal glands<sup>15</sup>. During more recent years, however, more and more emphasis has been placed on the psychogenic factor.

It has been shown rather conclusively that ulcers are formed only in the presence of an excess of the acid secretions of the stomach. Consequently, both the medical and surgical treatment of the disease is aimed at the reduction or the neutralization of this excessive secretion, and success in the treatment of ulcers can be had only when this is obtained.

Ulcers are formed only in acid areas (such as in the stomach, in the esophagus, and in Meckel's diverticulum when ectopic gastric mucosa is present), and only in the presence of free hydrochloric acid. Partial gastrectomies will cure peptic ulcers only

if achlorhydria is present postoperatively. If achlorhydria is not present postoperatively, a recurrence of the ulcer is usually seen<sup>13 15</sup>.

Under normal conditions the gastric wall is not digested away, apparently because it is not in contact with the pure juice for a sufficient length of time. Food dilutes and neutralizes the gastric juice, and pancreatic juice, gastric and intestinal mucus, duodenal juice and bile all act as further protection for the mucosa. When an excessive amount of juice is secreted, however, this neutralizing and protecting mechanism is overcome, and an ulcer is produced<sup>6</sup>. This was shown experimentally by Wangensteen when he injected pellets of histamine mixed with beeswax subcutaneously in animals.

The vagus nerve was implicated in this hypersecretion of gastric juice when A. J. Carlson demonstrated in man and in animals that the stomach secretes material continually under normal conditions. This varies between 10 and 60 cc. per hour in a normal man and was believed to be due to the persistent secretory tonus of the vagus<sup>7</sup>. Dragstedt and Ellis furnished additional data in 1930 when the stomachs of animals which were totally isolated, except for vagal innervation and blood supply, were found to secrete between 1000 and 2900 cc. of highly acid gastric juice per day, while the vagotomized isolated stomach secreted only 150 to 350 cc. of gastric juice daily. The first group of animals usually developed a progressive hypochloremia, alkalosis, and severe dehydration, and death followed; while the latter group of animals remained comparatively normal<sup>6</sup>.

Certain other information concerning the relationship between the vagi and hypersecretion of gastric juice will be presented later in a discussion of the results obtained from vagotomy.

In 1937, with the above data in mind, Winkelstein suggested doing a subphrenic anterior vagotomy plus a gastroenterostomy in the treatment of some cases of duodenal ulcer. He was prompted also by the work of Eugene Klein and A. A. Berg, who performed an anterior vagotomy plus a partial gastrectomy on 28 cases of peptic ulcer with good results. The postoperative acidity in practically all cases gradually fell to an achlorhydria, and there were no recurrent ulcers<sup>13 14 15</sup>. Winkelstein reported 34 cases, of which 26 developed achlorhydria<sup>11</sup>. It should be noted that in these cases only partial vagotomy was performed, and McCrea in 1925<sup>8</sup> and many other workers have shown that partial vagotomy is of no benefit and that complete vagotomy is difficult to achieve<sup>7 11 12</sup>.

In January 1943 Dragstedt performed his first complete vagotomy for the treatment of peptic ulcer. Since that time he has used this method of treatment in 54 cases of various types of peptic ulcer. He has had good results to date, but states that an insufficient length of time has elapsed to properly evaluate the results of this procedure. He has used both a transthoracic and a subdiaphragmatic approach.

In his transthoracic approach he resects the left eighth rib, and, after entering the pleura, divides the inferior pulmonary ligament and retracts the left lower lobe superiorly and the diaphragm inferiorly. The pleura is then incised over the esophagus, and the esophagus mobilized by digital dissection. The left, or anterior, and the right, or posterior, vagal trunks are then identified and isolated. There is usually one large communication between the two trunks, and this should be identified. There are also other vagal fibers within the wall of the esophagus, but he states that these can be either seen or palpated, and should be mobilized and incorporated into one of the



two bundles. The two bundles are then ligated and sectioned, and the proximal ends brought out into the pleural cavity through stab wounds in the pleura on each side of the incision over the esophagus and sutured to the pleura. The distal ends are allowed to retract into the abdomen. This maneuver is used to discourage regeneration of vagal fibers. The incisions are then closed in the usual manner without drainage.

In his abdominal approach Dragstedt uses a left upper paramedian incision. The left lobe of the liver is retracted toward the right after the left ligament is cut. The peritoneum over the esophagus is then incised, and the esophagus is pulled downward and mobilized as much as possible. The vagal trunks and accessory fibers are then isolated as two bundles. These bundles are ligated as high as possible, and the distal ends are sutured to the peritoneum over the stomach. The incisions are then closed in the usual manner. It is more difficult to section all vagal fibers with this procedure than with the former procedure.

Of the 54 patients operated on by Dragstedt, only one died (aspiration pneumonia), making a mortality of about 2 per cent. The transthoracic operation was done on 39 patients. Two of these had large chronic gastric ulcers, but refused gastrectomy. These ulcers healed postoperatively, as determined by x-ray examinations. Eight of the patients had gastrojejunal ulcers as a complication of previous surgery, and 44 patients had duodenal ulcers, many associated with high grade cicatricial stenosis of the pylorus, repeated severe hemorrhages or were, in general, intractable to medical treatment. Gastric decompression was carried out postoperatively for several days, since there is usually a marked decrease in stomach tonus and motility immediately postoperatively. The patients were mobilized on the first postoperative day, and feed-

ing was started on the fifth or sixth day. Fifteen of the patients required gastroenterostomy at the time of vagal section or subsequently, because of cicatricial pyloric stenosis. The most striking result of the operation was the immediate and persistent relief of the ulcer pain and distress secured in most patients. (One patient was not relieved, but tests revealed that complete vagotomy was not obtained.) Most patients gained significantly in weight<sup>3, 4, 5</sup>.

There have been some very interesting preoperative and postoperative studies made on these patients. Of these studies the continuous night secretion study is most impressive. At 9:00 P. M. the stomach was lavaged and emptied. Continuous suction was then maintained until 9:00 A. M. the following morning. Preoperatively the average amount of secretion was 820 cc., with a free acidity between 24 and 82 clinical units. After recovery from the operation the patients secreted an average of 415 cc., with a free acidity between 0 and 60 clinical units<sup>10</sup>.

Vagotomy produces no change in gastric secretion in response to histamine or in response to caffeine<sup>1</sup>.

The gastric secretion in response to insulin is affected by vagotomy. The hypoglycemia produced by the injection of 20 units of crystalline insulin stimulates the secretion of gastric juice. Preoperatively practically all patients had an increase in the volume and free acidity by this test, but this was completely abolished postoperatively by all but one patient. This test is used postoperatively to determine the completeness of the vagal section<sup>10</sup>.

Sham meals were given to some patients. They were allowed to chew but not to swallow various foods. Preoperatively there was a significant increase in secretion and acidity, but this was abolished by vagotomy<sup>10</sup>.

Studies were made also of the gastric motility in these patients before and after surgery. Using the balloon technic, seven out of eight patients showed hypertonicity and hypermotility of the stomach preoperatively. In the eighth patient the motility was less than normal, and in this individual there was a long standing, marked pyloric obstruction. Following operation this hypermotility was decreased and hunger periods were decreased in frequency and in duration. In the eighth patient the motility was increased to normal levels. In general, however, the patients on whom vagotomy has been done report no alteration in their sensations of hunger or appetite following this operation<sup>9</sup>.

Thus, we see that vagotomy is an operation which is designed to obliterate the neurogenic stimulation of gastric juice and, since the results obtained by Dragstedt have been so favorable, this procedure lends favor to the psychogenic theory of the etiology of peptic ulcer, and it may replace partial gastrectomy in the surgical treatment of this condition.

#### BIBLIOGRAPHY

1. Baronofsky, I. D., Friesen, S., Sanchez, Palomero, E., Cole, F., and Wangenstein, O. H.: Vagotomy Fails to Protect Against Histamine Provoked Ulcer, *Proc. Soc. Exper. Biol. & Med.* 62:114 (June) 1946.
2. Carlson, A. J.: *Physiol. Rev.* 3:1, 1923.
3. Dragstedt, L. R.; Clark, J. S., and Storer, E. H.: Section of the Vagus Nerves to the Stomach in the Treatment of Peptic Ulcer, *Proc. Inst. Med. Chicago* 16:146 (April) 1946.
4. Dragstedt, L. R.: Section of the Vagus Nerves to the Stomach in the Treatment of Gastro-Duodenal Ulcer, *Minnesota Med.* 29:597-606 (June) 1946.
5. Dragstedt, L. R., and Schafer, P. W.: Removal of Vagus Innervation of the Stomach, *Surgery* 17:742-749 (May) 1945.
6. Dragstedt, L. R.; Palmer, W. L., Schafer, P. W., and Hodges, P. C.: Supradiaphragmatic Section of Vagus Nerves, *Gastro-enterol.* 3:450-462 (Dec.) 1944.
7. Hartzell, J. B.: *Am. J. Physiol.* 91:161, 1929.
8. McCrea, E. D.: *Brit. J. Surg.* 13:621, 1925.
9. Storer, E. H.; Thornton, T. F., and Dragstedt, L. R.: Supradiaphragmatic Section of Vagus Nerves and Gastric Motility in Patients with Peptic Ulcer, *Proc. Soc. Exper. Biol. & Med.* 54:141-142 (June) 1945.
10. Thornton, T. F.; Storer, E. H., and Dragstedt, L. R.: Supradiaphragmatic Section of Vagus Nerves and Gastric Secretion in Patients with Peptic Ulcer, *Proc. Soc. Exper. Biol. & Med.* 59:140-141 (June) 1945.
11. Weinstein, V. A.; Calp, R., Hollander, F., and Jemerin, E. E.: Vagotomy, *Surg. Gynec. & Obst.* 79:297-305 (Sept.) 1944.
12. Wilhelmj, C. M.; McCarthy, H. H., and Hill, F. C.: *Am. J. Physiol.* 117:533, 1936.
13. Winkelstein, A., and Berg, A. A.: Vagotomy Plus Partial Gastrectomy for Duodenal Ulcer, *Am. J. Digest. Dis. & Nutrition* 5:497-501 (Oct.) 1938.
14. Winkelstein, A.: Relationship of Vagus Nerve to Peptic Ulcer, *J. Mt. Sinai Hosp.* 9:859-862 (Nov.-Dec.) 1942.
15. Winkelstein, A.: Subphrenic Vagotomy Plus Gastroenterostomy for Duodenal Ulcer, *J. Mt. Sinai Hosp.* 4:304-307 (Nov.-Dec.) 1937.

## THE CARDIAC-CORONARY CIRCULATION OF THE 18 MILLIMETER HUMAN

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Augusta

### Introduction

Since the cardiac-coronary system is of such clinical importance it is quite surprising to find a paucity of material on the embryonic development of this system. Grant,<sup>1</sup> Goldsmith,<sup>2</sup> Wheeldon,<sup>4</sup> and others have supplied us with a limited amount of information concerning its development in the rabbit and pig, but only Tandler, as quoted by Grant,<sup>1</sup> with his reference to the commencing outgrowths of the arteries from the base of the aorta in the 17 mm. embryo has mentioned such development in the human.

It is not my intention to try to describe the development of the cardiac-coronary system in the human, but simply to describe the degree of development of this system in an 18 mm. human embryo.

### Material

The material used for this work was a series of slides composing the complete cross sections of an 18 mm. human embryo which was obtained by a hysterectomy in the University Hospital, Augusta. This series was prepared in the Department of Microscopic Anatomy of the University of Georgia School of Medicine by Dr. L. L. Bowles.

It was through the kindness of my professors, Dr. Joseph Krafka, Jr., and Dr. L. L. Bowles, that I was allowed the use of this material and the inspiration of the former that the work was carried on. The helpful criticism of both men is gratefully acknowledged.

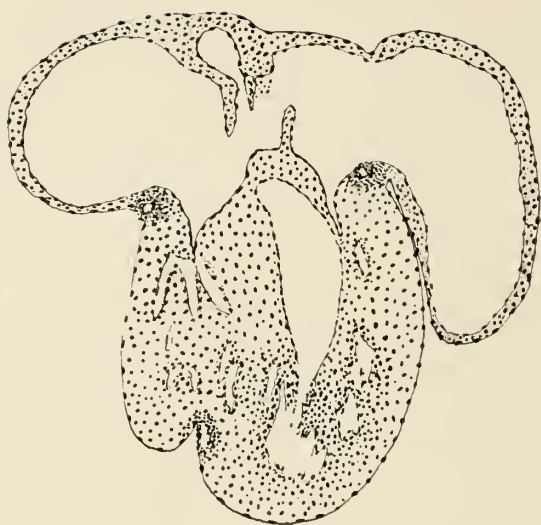


Figure 1

A section through the dorso-ventral axis of the heart showing the coronaries in their position in the a-v sulci.

### Description of Material

*A. Significant Features of the Heart at This Stage*—The heart measures 2.5 mm. in width through the atria and 2.6 mm. in its dorso-ventral axis (Fig. 1). The two ventricles are approximately the same size but the right atrium is larger than the left. The interventricular septum is still deficient and the foramen ovale is perfectly formed. The aorta is rotated and is much larger than the pulmonary trunk.

One very significant feature is the beginning of the differentiation of the bundle of His just to the right of the left atrio-ventricular orifice and ventral to the interseptal fossa. The entire musculature shows considerable differentiation, the beginning of this differentiation having been observed in this laboratory in the sinus venosus of a 3 mm. human embryo.

As yet the common cardinals still empty into the right and left horns of the sinus venosus although the left is somewhat smaller than the right.

*B. A Description of the Coronary Arteries.* 1. The Left Coronary Artery. In a description of this artery one would not be far wrong if he followed Gross<sup>3</sup> in his description of the same vessel in the adult

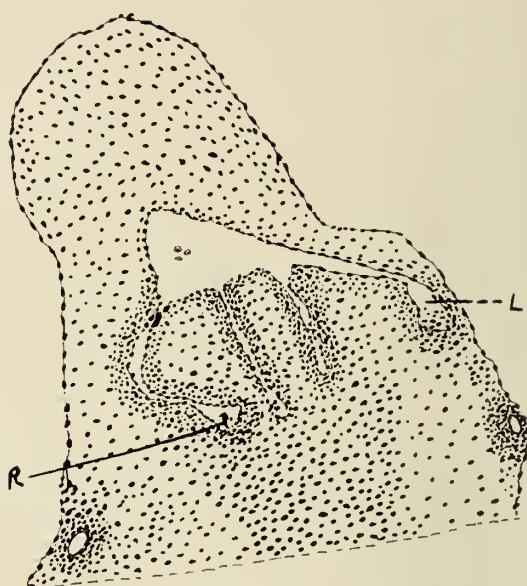


Figure 2

A section through the aortic cusps and sinuses of Valsalva showing the origin of the right and left coronaries.

heart. The vessel arises from the left anterior aortic sinus just even with the level of the free edge of the corresponding aortic cusp (Fig. 2—L). Proceeding forward, downward, and to the left it soon bifurcates under cover of the anterior portion of the left atrium.

Before bifurcation it gives off the first ventricular branch which crosses the root of the aorta to anastomose with its fellow from the opposite side. One of the two main branches produced by bifurcation, the anterior descending ramus, passes around the anterior surface of the left ventricle to the anterior longitudinal sulcus in which it descends to supply branches to both the right and left ventricles. This branch continues as far as the incisura apicis cordis. The other main branch, the circumflex, passes posteriorly around the left atrio-ventricular sulcus. In its course it gives several branches to the left atrium and left ventricle. The first of these branches arises immediately beyond bifurcation and passes into the wall of the left ventricle. Just distal to this two small branches pass across into the left atrium and one into the interventricular septum posteriorly. Opposite the



left atrio-ventricular orifice the circumflex artery divides into three terminal branches. One passes to the left atrium; another, the largest of the three, passes ventrally and posteriorly along the wall of the left ventricle; and a third branch continues along the atrio-ventricular sulcus and soon divides into several smaller terminal branches.

2. *The Right Coronary Artery.* This artery arises from the floor of the right anterior aortic sinus at the base of the cusp (Fig. 2—R), its origin being much less distinct and at a lower level than that of the left artery. It proceeds, as a relatively small collapsed tube, downward, forward, and to the right for a short distance and then becomes larger and turns posteriorly into the right atrio-ventricular sulcus, along which it courses to its termination. The posterior descending branch, which turns into the posterior longitudinal sulcus and is the terminal portion of the adult artery, at this stage is evidently a branch of the main stem.

The first branch, the first ventricular branch, is given off from the descending stem and passes over the aortic root and anastomoses with its fellow from the opposite side. The second branch, the marginal, arises after the artery has reached the atrio-ventricular sulcus and courses over the acute margin of the heart to which it supplies branches. The next branch, short and subdivided, but very definite, goes straight into the substance of the ventricle.

As the artery reaches the posterior longitudinal sulcus the posterior descending branch is given off into this sulcus and the main stem continues into a direct anastomosis with the small cardiac vein just distal to its junction with the right marginal vein.

### C. *The Venous Drainage of the Heart.*

1. *The Coronary Sinus.* At this stage the coronary sinus is a very large structure (Fig. 3—CS) situated obliquely across the posterior surface of the left ventricle. Its

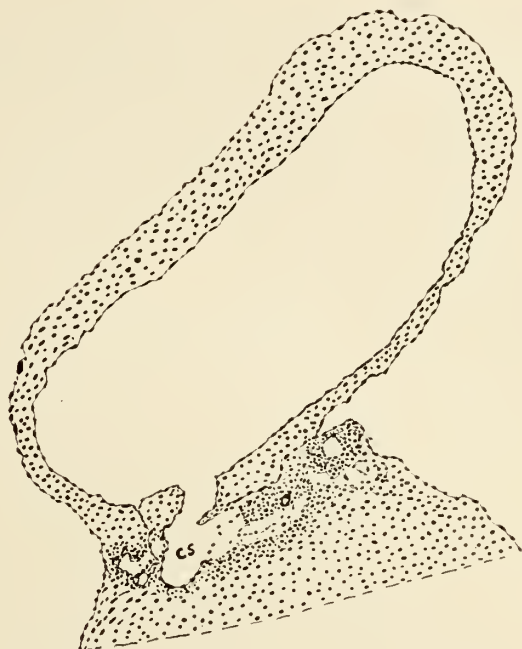


Figure 3.  
A section showing the coronary sinus as it opens into the sinus venosus.

right end empties directly into the sinus venosus. Its position is quite different from the definitive position in the coronary sulcus. The coronary (Thebesian) valve is fairly well defined.

Several veins may be traced into the coronary sinus. One, the posterior vein of the left ventricle, passes from a point near the apex, around the posterior surface of the left ventricle and empties into the left extremity of the sinus. A second, the middle cardiac vein, also arises near the apex and passes upward and backward along the posterior longitudinal sulcus and finally nearly vertically to reach the atrio-ventricular sulcus. It terminates in the coronary sinus at its right extremity. Just distal to its termination it sends a branch directly into the sinus venosus a little in front of and to the right of the coronary opening. It receives small tributaries from the substance of the ventricle. A third and relatively small vessel, the great cardiac vein, arises in the anterior longitudinal sulcus and ascends to the left atrio-ventricular sulcus. It courses along this sulcus until it enters

the coronary sinus at its right end, giving off first a communicating branch to the left horn of the sinus venosus. It receives several tributaries from the wall of the ventricle; one, the left marginal vein, is more prominent than the others. A fourth vessel, the small cardiac vein, arises in the right atrio-ventricular sulcus and terminates in the right end of the coronary sinus. Its tributaries are very small and insignificant.

### Conclusions

It was found that by the 18 mm. stage the cardiac-coronary system is nearly complete. The main variations from the mature system were found to be:

1. The left coronary artery is much better developed than the right;
2. The oblique vein of the left atrium, the anterior cardiac vein, and the smallest cardiac veins are not as yet developed, and
3. The coronary sinus has not reached its definitive position.

### BIBLIOGRAPHY

1. Grant, R. T.: Development of Cardiac-Coronary Vessels in the Rabbit, Heart, 13: 261-271, 1926.
2. Goldsmith, J. B., and Butler, H. W.: The Development of the Coronary Circulatory System, Am. J. Anat. 60: 185-201, 1936-37.
3. Gross, Louis: The Blood Supply to the Heart, Paul B. Hoeber, New York, 1921.
4. Wheeldon, T. H.: The Coronary Vessels of the Heart of the 20 mm. Pig Embryo, Anat. Rec. 11: 430-431, 1916-17.

### OTHER NATIONS TO STUDY AMERICAN BLOOD PROGRAM

Scholarships for the study of blood and its derivatives have been offered to a selected group of professional candidates from foreign countries by the American Red Cross in cooperation with the League of Red Cross Societies. These candidates will be proposed by the National Red Cross societies and will be selected on a basis of personal and professional qualifications, as well as on the need in their country for information on the use of blood fractions. The scholarships will be for 9 to 12 months of study in the United States and will have a value of \$2,500-3,000.

The training will include study of methods of collecting and processing blood, processing plasma to the products of plasma fractionation, and the uses of blood and blood derivatives in medicine and public health. Methods of recruiting donors and plans for organization will also be studied. Field work will be done in such varied parts of the country as North Dakota for mobile field laboratory operation, Michigan for its state plan of plasma fractionation, and in Miami, Florida, for private blood bank maintenance.

Details of the training were worked out by Dr. Warren F. Draper, Assistant Administrator, Medical Services, American National Red Cross, in cooperation with Dr. Charles A. Janeway of Boston, chairman of the Red Cross Advisory Committee on Blood and Blood Derivatives.

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## PULMONARY TUBERCULOSIS ONE OF CHIEF CAUSES OF DEATH BETWEEN 15-35

"Pulmonary tuberculosis is one of the chief causes of death among young people between the ages of 15 and 35," according to Ralph E. Dwork, M.D., of Denver, Colo., writing in the current issue of *Hygeia*, health magazine of the American Medical Association.

Dr. Dwork, senior resident physician at the National Jewish Hospital at Denver, states that "in recent years large numbers of previously undisclosed cases of pulmonary tuberculosis have come to light as a result of the numerous mass x-ray surveys that have been made by the armed forces and the Public Health Service in cooperation with industry and local and state health departments. Now there is a growing tendency to assume that early tuberculosis does not have symptoms and can be found only by x-rays; the assumption is misleading."

The x-ray, he points out, is the best instrument for finding early cases of tuberculosis. "Until it is economically possible to examine the whole population periodically by x-rays," Dr. Dwork writes, "it would be foolhardy to neglect symptoms or combinations of symptoms that point to a diagnosis of pulmonary tuberculosis. Many people are found to have the disease who think they are not sick; the symptoms of early tuberculosis are not startling and are easily dismissed. People neglect these symptoms, or rationalize them away, or attribute them to totally unrelated causes."

Pointing out that pulmonary tuberculosis develops without noticeable symptoms in only one fifth or less of all who are found to have x-ray lesions, the author lists the most common symptoms as cough, expectoration, loss of weight, chest pain, weakness, fever, hemorrhage, night sweats, streaking, breathlessness, loss of appetite, chills, hoarseness, irritability, generalized aches and pains, headaches and insomnia.

## VETERANS' NEWS

Veterans can still reinstate lapsed National Service Life Insurance easily under current Veterans Administration rules.

Veterans filing applications for hospital or domiciliary care continue to total around 70,000 monthly, Veterans Administration said.

Veterans with National Service Life Insurance may direct Veterans Administration to make lump-sum settlements to their beneficiaries.

The rate of patient turnover in all VA hospitals has risen to a monthly average of more than 45 per cent because of improved medical care.

Veterans Administration is waiving about \$1,000,000 in insurance premium payments monthly for the total disability of NSLI policyholders.

Veterans Administration constantly is reducing its backlog of veterans' requests for physical examinations for compensation and pension purposes.

The number of veterans awaiting admission to Veterans Administration hospitals is showing a downward trend because VA is able to take care of more patients every month.

Veterans with chronic ailments who can not support themselves are cared for in VA homes. The number now in homes is the largest since the beginning of World War II.

Almost four times as many veterans are receiving Veterans Administration outpatient treatment now as a year ago, making additional VA hospital beds available for the more seriously ill veterans.

Veterans no longer have to hold their National Service Life Insurance term policies with Veterans Administration one year before converting them to permanent plans; they may convert immediately under present laws.

## HEALTHGRAMS

The physician and the public must be constantly impressed to respect and treat tuberculosis as a highly contagious disease. Margery Blahd, Eleanor I. Leslie, and Sol Roy Rosenthal. *Am. Jour. Pub. Health*, July, 1946.

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Mass chest x-ray surveys are valuable weapons in the fight against tuberculosis. Used judiciously as a screening method to reach every individual they will hasten the day when this disease will be a minor factor in morbidity and mortality statistics of the nation. Maurice Kovnat, M.D., *J.A.M.A.*, March 29, 1947.

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So much emphasis has been placed on tuberculosis as a serious disease of girls and young women that its greater havoc among men has not received the attention that it deserves. As a result of the more rapid decline of tuberculosis in females in this country there are today 156 deaths among males to every 100 deaths in females and only at ages ten to thirty is the mortality higher in females. Tuberculosis is increasingly becoming a disease of older, occupied men. Henry D. Chadwick, M.D. and Alton S. Pope, M.D., *The Modern Attack on Tuberculosis*, The Commonwealth Fund, Revised, 1946.

\* \* \*

Complete victory over tuberculosis is in sight. This is supported by statistics and by the opinion of those who have led the drive for eradication. The death rate continues to decrease. More adequate case finding programs have resulted in a rising percentage of minimal cases and a falling percentage of far-advanced cases. Ed., *Hospitals*, Aug., 1946.

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While tuberculosis is often stated to be a consequence of poverty, it is in itself a cause of great economic loss. This is a result not only of the very high rates of prevalence which still prevail in many countries but also of the peculiar age selectivity of the disease. It affects men and women in their most productive years, and at ages when they are most likely to have dependents. The immediate loss, therefore, is but part of the picture. The social illness continues long after that of the individual terminates. James A. Doull, M.D., *NTA TRANS.*, 1946



# THE JOURNAL

OF THE  
MEDICAL ASSOCIATION OF GEORGIA

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JUNE, 1947

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## SMALLPOX CAN BE WIPED OUT

Although an outstanding victory has been scored against smallpox in recent decades, occasional outbreaks of the disease in various parts of the country serve as a grim reminder that it is still a menace to the public health, said the *Statistical Bulletin* of the Metropolitan Life Insurance Company for April 1947. "In recent weeks, eight cases of smallpox were reported in New York City, the first since 1939; two of the recent cases proved fatal. Four additional cases, traceable to the city, occurred in up-state New York. A little more than a year ago the Pacific Coast, and more particularly the State of Washington, suffered an outbreak of virulent smallpox which caused more than 100 cases and about a score of deaths. In each of these instances the infection was brought in from foreign countries. On the West Coast the epidemic was imported by men in the armed forces returning from the Far East; in New York City the disease was brought in by a business man returning from Mexico. These outbreaks were kept under control because of the alertness of the public health agencies in tracing and isolating cases, in warning the public of the dangers of infection, and in providing personnel and equipment for mass vaccination.

"In 1946 there were altogether 356 cases of smallpox reported in the United States, 10 more than in 1945. About one quarter of the total last year—88 cases—occurred in the State of Washington; in 1945 there were only eight cases of the disease in that State. Indiana, which often ranks first with respect to smallpox cases, took second place last

year with 42 cases, followed by Texas with 28 and Ohio with 18. As usual, there was a cluster of cases in the states bordering the Mississippi River. On the other hand there were 14 states and the District of Columbia which had no cases of smallpox in 1946. All but two of the states—Utah and South Dakota—were on the Atlantic seaboard. The area along the coast from Maine through South Carolina was free from the disease, except for two cases in New Jersey and two in North Carolina.

"In the past quarter century remarkable progress has been made in controlling smallpox. In 1921 there were well in excess of 100,000 cases of the disease reported in our country. Cases still totaled close to 50,000 in 1930. Even as recently as 1938, 16 states each had more cases than were reported for the entire country in 1946. Particularly noteworthy is the continued decline in smallpox morbidity through the war period, when the migration of large numbers of susceptible war workers and overcrowded living conditions provided fertile soil for the spread of an epidemic.

"Smallpox can be eradicated from our country through the universal practice of vaccination and revaccination. Unfortunately, there are still a considerable number of states which do not require a child to be vaccinated against the disease before entering school. It is hardly a coincidence that these states, which serve as a reservoir of infection, as a rule have the highest prevalence rates. Smallpox has no place in a country with our high standards of public health and is a blot on our national record. In all of Canada last year there were but two cases of the disease, both in the Province of Saskatchewan."

*The JOURNAL would like to record the scientific work of Georgia physicians. It earnestly requests, therefore, that each physician in the State who publishes a contribution in some other medical periodical submit an abstract of the article for these columns.*



## CEREBROSPINAL MENINGITIS DECLINES FROM WARTIME PEAK

The death rate from cerebrospinal meningitis has been declining since it reached its wartime peak in 1943, according to the *Statistical Bulletin* of the Metropolitan Life Insurance Company for April 1947 . . . "The age-adjusted death rate from the disease (ages 1 to 74 years) decreased slightly from 2.2 per 100,000 in 1943 to 2.1 in the following year, and then dropped to 0.9 per 100,000 in 1945 and further to 0.8 in 1946. There are indications that the decline is continuing in the current year.

"Wartime conditions, especially the concentration of large numbers of young men in training camps, favored the spread of cerebrospinal meningitis, but epidemics of the disease are by no means limited to war periods. In fact the highest mortality from the disease in the 35 years of this insurance experience was recorded in 1929, when the death rate rose to 4.3 per 100,000. Although the number of cases of cerebrospinal meningitis reported per unit of population in the United States was about 50 per cent greater in 1943 than in 1929, the death rate from the disease among the policyholders in 1943 was only about one half that in the earlier year. The sharp decrease in the case-fatality rate from the disease is due very largely to the widespread use, in recent years, of the sulfa drugs in the treatment of the infection. Currently about one in every five cases of cerebrospinal meningitis in the general population succumbs to the disease; only a decade ago, before sulfa drug therapy was in use, the ratio was about one in every two. Where facilities for diagnosis and early treatment are readily available, very low fatality rates are experienced. In the United States Army, for example, the case-fatality rate was about 3 per cent in World War II, as compared with well over 30 per cent in World War I. Moreover, with the newer

therapy, relapses have been virtually eliminated and the frequency of complications has been greatly reduced.

"The death rate from cerebrospinal meningitis, particularly in nonepidemic years, is highest in infancy and early childhood. In 1945, for instance, more than one third of the deaths from the disease in the general population of the country occurred in the ages under 5. The mortality in most years is higher for males than for females and is higher for colored persons than for whites."

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## REPORT TREND TOWARD RURAL PRACTICE BY RETURNED DOCTORS

The Bureau of Information of the American Medical Association, which provides the medical officer with information regarding areas needing physicians, "is sensing the trend of returned medical officers to move away from their recent venture in city practice to accept the opportunities of more active practice in smaller communities," according to Virginia Shuler, Director.

Writing in *The Journal of the American Medical Association*, (May 17) the author points out:

"Demobilization is not completely over. Many young physicians are still in the armed forces, and a large proportion of the resident physicians doing postgraduate work in hospitals are men who served in World War II. According to the Directory Department of the American Medical Association, approximately five thousand physicians have not yet decided on a permanent location.

"Already the Bureau of Information is sensing the trend of returned medical officers to move away from their recent venture in city practice to accept the opportunities of more active practice in smaller communities. From studies of physician distribution the general picture for location of physicians during the year following V-J day shows an adequate supply of physicians in most of the states but reflects a need for a more coordinated system of medical service in many of the rural areas.

"Leaders of the medical profession interested in better rural medical service are working with the farm organizations to outline a program of activity to develop in rural areas an appreciation of modern medical service and the responsibility of the community in planning a health program that will make the country physician a working partner toward decentralization of medical care from urban or large trade centers to the more rural sections of the population. The medical

profession and the farm groups want to make rural medical service more adequate not only to the farmer but also to those who extend this service to the farmer.

"Dr. F. S. Crockett, Chairman of the Committee on Rural Medical Service of the American Medical Association, has recently announced that the Farm Bureau, the Farmers Union, the Cooperative Milk Producers' Federation and the Grange have each appointed two of their members to act in an advisory capacity to the Committee on Rural Medical Service of the American Medical Association. This committee will hold a meeting soon to outline and develop an active program for regional and local rural representatives. Thomas A. Hendricks, Secretary of the Council on Medical Service, is working out a plan with the Committee on Rural Medical Service to coordinate the council's and the committee's regional meetings in order to develop through workshop conferences the most adequate extension of medical service to all areas.

"In December 1946 the Bureau of Information began a survey through the local medical societies to determine the conditions and distribution of medical care in the rural areas of the country. Through the cooperation of the secretaries of the state and county medical societies, listings of areas which have requested physicians are available to help the doctor in selecting an area in which to establish his medical practice."

Accompanying *The Journal* article are reproductions of several state maps showing the trend in locations of physicians from April 1946 to January 1947—the peak period of demobilization of doctors from the armed services. The article also carries comments by several state medical secretaries of conditions and distribution of physicians as related to medical care in their counties.

### THREE DISEASES CAUSE 80-90 PER CENT OF ALL CASES OF HYPOGLYCEMIA

Eighty to 90 per cent of all cases of hypoglycemia, an abnormally low level of sugar in the blood, result from three diseases which Jerome W. Conn, M.D., of Ann Arbor, Mich., defines so that treatment may be more successful.

Writing in the May 10 issue of *The Journal of the American Medical Association*, Dr. Conn differentiates the three types as follows:

Functional hyperinsulinism is caused by over-secretion of insulin in the pancreas. Insulin transforms carbohydrates for body use but its overproduction deprives the blood of necessary sugar. Symptoms are weakness, irritability, fatigue, sweating and dizziness. This type is not progressive in severity. It occurs more frequently under emotional or physical tension which acts as a stimulus. Hypoglycemic attacks occur two to four hours after meals. Dr. Conn found that a high protein, low carbohydrate diet is successful

in the management of this type of hypoglycemia.

Organic hyperinsulinism is caused by the growth of a tumor or tumors in the pancreas which stimulate the production of insulin. This type is progressive in frequency and severity of attacks which occur before breakfast from two to eight a.m. and two to four hours after meals. The attacks are precipitated by skipped or late meals or exercise. Removal of these tumors results in complete alleviation of the entire disturbance without recurrence in the vast majority of cases.

The third type, hepatogenic hypoglycemia, is traceable to changes in the liver. This organ is responsible for the storage of glycogen, which is converted into sugar as the needs of the system require. However, if this storage does not take place because of some condition such as a diseased gallbladder, then the body is deprived of its needs. This type of hypoglycemia is also progressive in frequency and severity with attacks occurring before breakfast. These patients should be put on a diet both high in carbohydrate and high in protein.

### JOURNAL SAYS 6,959 WERE ADDED TO U. S. PHYSICIAN RANKS IN 1946

*Death Removes 3,358 Doctors, Leaving an Approximate Increase of 3,601; Most Licenses Issued in California*

There were 6,959 additions to the medical profession in 1946, according to data presented in the 45th annual compilation of medical licensure and allied statistics by the Council on Medical Education and Hospitals of the American Medical Association and published in the May 17 issue of *The Journal of the American Medical Association*.

"The number of physicians removed by death in the United States, possessions and territories, and those physicians temporarily located in a foreign country in the same period was 3,358," *The Journal* says, adding: "Thus the physician population in the United States was increased by 3,601."

During the year 1946 there were 16,129 licenses to practice medicine issued by the medical examining boards of the 48 states, the District of Columbia, Alaska, Hawaii, Puerto Rico and the Virgin Islands. Of the 16,129 licenses issued, 6,559 were granted after examination and 9,570 by reciprocity and endorsement of state licenses or the certificate of the National Board of Medical Examiners. These figures represent an unprecedented increase over all previous years in both groups.

The greatest number of licenses during the last calendar year were issued in California, 2,045. Both New York and Illinois licensed more than 1,000. Five other states registered over 500: Michigan, New Jersey, Ohio, Pennsylvania and Texas. No state licensed fewer than 30. Comparison of like data presented for the year 1945 indicates an increase in all but three states: Arkansas, Indiana and Tennessee. The increase was spectacular not only in certain states with large urban populations but also in some rural states.

While the more pronounced increase was evident in the group licensed without examination, the group who were registered after written examination was more than 1,000 greater than in 1945. These figures apparently reflect mainly the migration of veteran medical officers who are not returning to their original state of practice and those medical officers representing recent graduates who were licensed prior to entry on active duty with the



armed forces but returned to a new state. Previous compilations indicated that the accelerated program in medical schools (July 1, 1942 to July 1, 1945) produced 20,662 physicians in this three year cycle, while in the four years 1942 to 1945 inclusive 35,321 physicians received licenses. The graduation of one extra class under the accelerated program and the slight increase in enrolment in all medical schools, while intended primarily for the production of additional physicians to aid in the care of the armed forces, is now probably providing a greater physician-civilian population ratio in the country generally.

The greatest number of graduates of any one school examined was 348, representing the University of Illinois College of Medicine, 281 of whom were examined in Illinois and 67 in 18 other states. Graduates of the University of Pennsylvania were examined in the greatest number of states—30. Northwestern alumni were tested in 29 states and Harvard Medical School in 28 states.

Thirteen approved schools in the United States had no failures before medical licensing boards, 35 less than five per cent and 14 between five and 10 per cent.

Altogether there were 7,605 candidates who appeared before medical examining boards in 1946, of whom 6,853 passed and 752, or 9.9 per cent, failed. The number tested exceeded the 1945 figure by 1,015. The greatest percentage of failures represented two groups—foreign schools and unapproved schools.

Increases in the physician population arranged in nine geographic divisions of the United States show that the East North Central and Middle Atlantic group of states added the greatest number, 1,521 and 1,460 respectively. More than 500 were added in five other groups—New England 620, West North Central 770, South Atlantic 838, West South Central 530 and Pacific 606. The East South Central States added 318, the Mountain states 144 and the territories and possessions 52. Alaska did not add a single physician to the medical profession last year in this compilation of first licenses.

#### CENTRAL PATHOLOGIC LABORATORY FOR VETERANS

Establishment of a central laboratory for pathology in Washington, D. C., in cooperation with the Army Institute of Pathology, has been announced by Veterans Administration.

The laboratory will provide a consultation, review and diagnostic service in pathologic tissues for VA's 126 hospitals and other medical facilities.

In addition, VA pathologists will cooperate with the Army, civilian medical societies and others in maintaining a central file of pathologic anatomy and related records for reference, research, training and long-range follow-up programs.

The joint laboratory will also provide instruction in pathologic anatomy and histopathologic techniques for VA pathologists and technicians, within the limits of available facilities; conduct research in the pathology of diseases and cooperate with similar research programs of the Army Institute of Pathology, and provide study and review materials in the form of study sets, atlases and clinico-pathologic conferences which will be equally valuable to both laboratory and clinical services in their teaching and training programs.

It is planned that branch reference laboratories, to be established in each of VA's 13 branch offices at a later date, will maintain consultation and training services in pathology for VA hospitals and other medical facilities with in their respective areas.

The histopathologic sections of these reference laboratories will also assist in screening materials being forwarded to the central laboratory in Washington, D. C.

#### NUMBER OF BIRTHS REMAINS HIGH DURING FIRST QUARTER OF 1947

In the first quarter of 1947 approximately 973,000 births were registered in the United States, according to preliminary estimates released recently by the National Office of Vital Statistics, U. S. Public Health Service,

Federal Security Agency. This is 46.5 per cent more than the 664,000 births estimated to have been registered in the first three months of 1946, and it is 29 per cent more than the number recorded in the first quarter of 1943, the year which held the record for births until outstripped by 1946.

Deaths in this country are estimated to have totaled 388,000 in the first three months of 1947. This is the same estimated number as that for the first quarter of 1946. In 1946 there was a mild epidemic of influenza and other respiratory infections that increased the number of deaths in January over the number recorded in non-epidemic years. In 1947 the incidence of influenza increased in March and the provisional death rate reported for March was higher than for that month in any year since 1943. The death rate for this past March was 11.3 per thousand population, as compared with 11.7 for March 1943. For the first quarter of 1947 the death rate on a cumulative basis was 11.0 or 1 per cent less than the comparable rate of 11.1 deaths per 1,000 population (excluding the armed forces overseas) for the first quarter of 1946.

#### FIND COMBINATION OF DRUGS EFFECTIVE FOR ULCERATIVE COLITIS

Patients with chronic ulcerative colitis, an infectious disease of the large intestine, were effectively treated with penicillin taken by mouth and an intestinal sulfonamide, phthalylsulfathiazole, according to Michael H. Streicher, M.D., of Chicago.

Writing in the May 24 issue of *The Journal of the American Medical Association*, Dr. Streicher, who is assistant professor of medicine, University of Illinois College of Medicine, treated 45 patients with this disease.

The author points out that the combination of drugs was very effective because such infectious agents as the staphylococcus, which is responsible for boils, and the streptococcus, which causes "strep" throat, are present in the intestines in ulcerative colitis.

Some factors which predispose to invasion by the organism causing this disease have come to be recognized. The most common of these are infections of the upper part of the respiratory tract, including tonsillitis, cranial sinusitis, bronchitis and pneumonia.

#### AMERICAN MEDICAL ASSOCIATION NEWS BRIEFS

The American Medical Association has published a list of acceptable medical schools annually since 1910.

\* \* \*

A permanent record of all licenses issued by state medical examining boards is kept by the American Medical Association.

\* \* \*

The Bureau of Medical Economic Research reports that approximately three-fourths of the 200,000 physicians in the United States are engaged in active practice.

\* \* \*

More than 250 delegates, representing 40 medical societies and 28 colleges, founded the American Medical Association in the hall of the Academy of Natural Sciences in Philadelphia on May 5, 1847.

\* \* \*

One of the objectives of the Council on Foods and Nutrition of the American Medical Association is to promote improvements in the quality of foods through the application of scientific knowledge to the problems of the food industry.



## GEORGIA DEPARTMENT OF PUBLIC HEALTH

DDT DUSTING AS A CONTROL MEASURE  
FOR THE AMERICAN DOG TICK, THE  
VECTOR OF ROCKY MOUNTAIN  
SPOTTED FEVER IN GEORGIA.*A Preliminary Study*

JOHN E. MCCROAN, JR., Ph.D.

RALPH L. RAMSEY, JR., B.S.

*Division of Preventable Diseases,  
Georgia Department of Public Health  
Atlanta**Introduction*

Twelve cases of clinically recognized and serologically confirmed Rocky Mountain spotted fever occurred in one small area of less than two hundred acres in a semi-urban region of DeKalb County, Georgia, in the period 1939-1945. Seven of these cases developed in 1945, one case in May, five cases in June, and one in July.

The DeKalb County Health Department in cooperation with the State Department of Health undertook immunization of the residents of this region in 1946. While it was expected that this measure would at least partially obviate danger from spotted fever to those residing permanently in the region, it was thought that the institution of control measures against ticks was also desirable, in the hope that danger to casual visitors might be minimized and that the tick population could be reduced below the level at which it would be able to maintain itself.

The work of Smith, Cole and Gouck (1944b, 1946) on the biology and control of the American dog tick, *Dermacentor variabilis* (Say), and on other ticks, seemed to indicate that DDT, applied either as a dust or a spray, was effective in destroying ticks in their natural habitat, and that the effect of area treatments by this method was persistent for several months.

In the DeKalb County area it was apparent from the seasonal incidence of the disease that the period of greatest hazard was of short duration; all recorded cases save one having occurred in May, June and July. It was therefore considered that the DDT dusting technic suggested by Smith and Gouck offered promise of success in securing the desired result, and an experimental control project was established early in 1946 with the cooperation of the Georgia Department of Public Health, the DeKalb County Health Department, and with the assistance of the Communicable Disease Center of the U.S.P.H.S. Dr. Carroll N. Smith and Mr. Harry K. Gouck of the U. S. Department of Agriculture made several trips to work in the area and have acted as consultants throughout the period of the experiment.

*Description of the Area*

The area covered by the experiment lies in

the Alexander Estates area of suburban DeKalb County and is bounded by Glenwood Drive, by Alston Drive, Thomas Street and Morgan Place. At the time the experiment was set up, approximately one-half the area was occupied by dwellings, yards, gardens and improved areas. One entire block, now completely built up, was at the time occupied only by a disused radio transmitting station and was rented as a hay field. Interspersed between groups of homes and other scattered buildings were numerous overgrown and forested areas in which the outlines of old fields were scarcely discernible. One area of more than a block had developed a scattering growth of pine saplings, while an adjacent ravine and the opposite hillside still supported hardwood growth surviving from an earlier time.

Traversing the area there were numerous streets, at least half of them in disrepair and impassable for wheeled vehicles where they crossed small streams. Several of these "streets" remained only as footpaths; other extemporized paths cut diagonally across blocks and wound down hill faces to small streams, being deserted and re-directed as they eroded and became unsafe for pedestrians. The population of the area, particularly the dog population, made abundant use of these vegetation bordered paths, and so provided the tick population with ample opportunity for securing hosts. The remaining roads of the area were well-marked city streets, several of them paved; and were, with interruptions, bordered by grassed and maintained lawns.

Therefore, an ideal situation for the propagation of Rocky Mountain spotted fever had come to exist. There was enough cover and disused area to permit the maintenance of a considerable population of the cotton rat, *Sigmodon hispidus hispidus*, which here serves as a host for tick larvae and nymphs, and a sufficient number of dogs to provide hosts on which adult ticks could engorge. Human hosts are, of course, incidental to the tick cycle and engorgement to repletion, with subsequent dropping off to lay eggs, is limited for all practical purposes to ticks which find dog hosts. Abortive and short-lived attachments on man are, however, not uncommon in the area.

*Life Cycle of Dermacentor Variabilis*

The following outline of the tick life cycle is adapted from that described by Smith, Cole and Gouck for *Dermacentor variabilis* at Martha's Vineyard, Massachusetts. The tick colony set up by us from adults taken in the DeKalb area is not yet old enough or large enough to permit critical statement of the time intervals involved. It is, however, possible to say that the egg and larval cycle is sufficiently similar to that described

by Smith and associates to justify the provisional assumption that no important difference will be found.

TABLE 1. *Life Cycle of Dermacentor Variabilis.*

Stage in Life Cycle	Normal Length of Stage	Maximum Recorded Survival
Adult	8 - 16 months	2½ years
Egg	36 - 57 days	303 days
Larvae	14 - 250 days	540 days
Nymphs	27 - 300 days	584 days

The average complete cycle is approximately two years, under field conditions. Hibernation occurs in either the larval, nymphal or adult stage. Eggs have been known to survive through the winter though normal larvae were not produced.

#### Plan of Experiment

The entire area was divided into two sub-areas which were, as nearly as was possible, comparable in terrain and other factors which might influence the experiment. One area was designated for treatment with 10 per cent DDT dust at the rate of 25 pounds per acre (2.5 pounds of DDT per acre) and the other area was left untreated.

The portion of the area which remained undusted was used as a check for comparison with the treated area and the same collection and evaluation technics were followed carefully in the two sections. These methods consisted principally of dragging paths and roadways with a flannel drag which was inspected every 200 feet, and weekly examination of all dogs and cats resident in the area. The data derived from these investigations are summarized in the table which follows:

TABLE 2. *Summary of Tick Collection Data.*

	Before Dusting	After Dusting
Mean No. of Ticks per Infested Dog or Cat		
Check Area .....	4.57	1.92
Experimental Area .....	9.39	1.35
Adult Ticks by Dragging		
Check Area .....	21	5
Experimental Area .....	98	5
Mean No. of Tick Nymphs and Larvae per Infested Rat		
Check Area .....	0.00	5.35
Experimental Area .....	2.00	2.32
Ticks Collected from Humans		
Check Area .....	1	7
Experimental Area .....	1	0

#### Discussion

It will be noted from the figures above that the experimental area was considerably more productive of ticks than the check area in the period before dusting, and that after dusting the situation was apparently reversed. Perhaps the most important and significant effect is indicated by the figures on collections from infested rats. These imply that the trend in nymphal and larval activities, i.e., the developing tick population of the next year was materially affected by DDT dusting.

The largest body of data is derived from dog and cat examinations. Since these animals roamed both areas, although they naturally spent more time near home, it is surprising that a marked

difference between the areas is found before dusting in this category of collections. It is equally surprising that after dusting this marked difference disappeared completely and the check area became slightly more productive of ticks.

It can only be supposed that considerable destruction of ticks had occurred in the experimental area. It is also reasonable to assume that all dogs entering the dusted area at any time picked up a small amount of DDT dust and so in some measure extended the effect of the treatment to the check area. The original difference has statistical significance, while the difference after dusting is not significant, the implication being that some factor, presumably the DDT dust, intervened to produce a leveling of the two populations before the cessation of seasonal activity would normally have produced such an effect.

However, the sample is too small to justify the assumption that the apparent statistical significance of the difference is adequate evidence of the value of the program. The most credible indication that some success was attained lies in the fact that all categories of data point in the same direction, i.e., they indicate an unequal rate of reduction in the two areas as the season progressed and the tick populations subsided into normal winter inactivity.

The technics of collection and evaluation employed were themselves control methods. All ticks and rats caught were removed from the area instead of being again released as has been the practice in other tick projects. This destruction of ticks and rats was decided upon because the area is a focus for Rocky Mountain spotted fever, and public health considerations forbade any experimental procedure, however scientifically sound it might be, which would in any way jeopardize the health of the people resident in the area. The results lose in conclusiveness by such a procedure, but it is believed that the data are adequate enough to show that the method has promise and to justify continued study of the DeKalb area and treatment on an experimental basis of larger, semi-urban areas where Rocky Mountain spotted fever has become established.

Finally, it is believed from the above evidence and on the basis of results obtained by Smith, Cole and Gouck in Massachusetts that material reduction in year-to-year populations of *Dermacentor variabilis* can be effected in semi-urban areas by assiduous collection and destruction of adult ticks engorging on dogs. Dusting dogs with DDT powder and/or dipping twice weekly in standard derris dip (2 ounces of derris and 1 ounce of neutral soap to 1 gallon of water) as practiced by Smith and associates will destroy ticks before the females can engorge and lay eggs. When such a program is combined with DDT dusting or spraying of all vegetation along paths and roadsides and around residences, there is reason to suppose that both the current danger



from an existing adult population and the area potential for Rocky Mountain spotted fever can be reduced.

### Conclusions

1. Preliminary studies on the possibility of area tick control by chemical means have yielded encouraging but not definitive results.

2. The important part played by domestic dogs in supporting and disseminating populations of *Derma-centor variabilis* in a selected area in DeKalb County, Georgia, has been demonstrated.

3. Data have been collected which indicate that the chief host animal for larval and nymphal forms of *Derma-centor variabilis* in the area studied is the northern cotton rat, *Sigmodon hispidus hispidus*.

4. Biologic data derived from studies on *Derma-centor variabilis* in other Eastern areas are essentially applicable to conditions in the DeKalb-Fulton area.

5. The effectiveness of 10 per cent DDT dust in pyrophyllite, when applied with rotary hand dusters at the rate 25 pounds of dust per acre, need not be minimized on the basis of current results. The extreme variability of tick populations from year-to-year makes it essential, however, that observations be continued over a longer period.

6. Further trial of DDT and other insecticides, with modifications in the method of application, appears to be justified.

### REFERENCES

1. Smith, C. N. and Gouck, H. K.: Effectiveness of DDT in the Control of Ticks on Vegetation. Jour. Econ. Ent. 37: 128-130, 1944b.
2. Smith, C. N., Cole, M. M., and Gouck, H. K.: Biology and Control of the American Dog Tick. Technical Bulletin No. 905, United States Department of Agriculture, Washington, D. C. 1946.

### MEDICAL SOCIAL WORK

A new Occupational Abstract, *Medical Social Work*, containing the latest information about the field, is now available through Occupational Index, Inc., New York University, New York 3, N. Y., for 25 cents a copy.

Relating information valuable to vocational counselors, students, and anyone interested in entering the field, this six-page pamphlet describes the nature of the work, qualifications and preparation required, methods of entrance and advancement, number and distribution of workers, discrimination, earnings, advantages and disadvantages. Included also are professional periodicals, sources of further information, and a selected list of supplemental reading.

### MEDICAL SECRETARY

Occupational Abstracts reach the century mark with *Medical Secretary*, by Margaret H. Llano, Abstract Number 100. This six-page pamphlet is now available from the publisher, Occupational Index, Inc., New York University, New York 3, N. Y.

If you have been wondering what interesting and unusual fields you can enter with secretarial training as a wedge, this leaflet will tell you about the future prospects, nature of the work, qualifications and training needed, methods of entrance and advancement, discrimination, possible earnings, number and distribution of workers, advantages and disadvantages of medical secretarial work. Additional references are listed.

### OBITUARY

Dr. William Leak Gilbert, aged 81, one of Atlanta's best-known and leading physicians, died at the Georgian Terrace Hotel, Atlanta, where he had lived for over 20 years, May 7, 1947. Dr. Gilbert was born in the family home on Perkerson Road, Atlanta, one of the oldest houses in Fulton County, the son of the late Jerry S. and Matilda Perkerson Gilbert. He was graduated from the Atlanta Medical College in 1888 and in 1891 was graduated with first honor from Jefferson Medical College of Philadelphia. He practiced medicine in Atlanta from the time of his graduation until his retirement nine years ago. Dr. Gilbert was one of the first physicians in Atlanta to use anesthesia, had a mixed political and professional career. With the exception of one term, he served as a county commissioner from 1915 until 1938, for a while as chairman of the board. He was at one time associated with Dr. T. D. Longino, and with Dr. George H. Noble, both well-known Atlantians. He was a member of the Fulton County Medical Society, the Medical Association of Georgia, the Elks, the Shriners, the Old Guard, and the Zion Methodist Church. Survivors include two daughters, Mrs. Ronald G. Eaton and Mrs. Harry Greenway; two sisters, Mrs. George W. Taylor, and Miss Annie Belle Gilbert; two nieces, Mrs. Arch Avery, Jr., and Miss Kathryn Gilbert, and a sister-in-law, Mrs. J. O. Gilbert, all of Atlanta. Funeral services were held at Spring Hill, with Dr. Charles S. Forrester and Dr. David Marx officiating. Burial was in Oakland Cemetery, Atlanta.

\* \* \*

Dr. Harrison Lee McCrary, aged 81, one of Royston's most beloved physicians and citizens, died April 22, 1947. Dr. McCrary was born in Hall County and was graduated from the University of Louisville School of Medicine, Louisville, Ky., in 1890. With the exception of one year, he had practiced medicine in Royston all of his professional life of 58 years. He was a member of the Franklin County Medical Society, the Medical Association of Georgia, and the Royston Methodist Church. He served as steward of his church for many years, and was a leader in the Christian affairs of Royston. Survivors include his wife, Mrs. Delina Brown McCrary, four children, Mrs. Clyde Jones, and Mrs. Rufus Lester, both of Wadley; Mrs. Judson Barton, Royston, and Stewart McCrary, Gainesville; two sisters, Mrs. Mary Bradshaw, Oregon, and Mrs. Hattie Brown, Royston, one brother, Dr. Alex McCrary, San Francisco, Calif., and several grandchildren. Funeral services were held from the Royston Methodist Church, with the Rev. J. Douglas Gibson and the Rev. Howard Etheridge officiating. Burial was in Rose Hill Cemetery, Royston.

\* \* \*

Dr. James William McCurdy, aged 37, Thomaston physician and a veteran of five years service in the U. S. Army Medical Corps, died at Macon Hospital from injuries received in an automobile accident returning home from the annual session of the Medical Association of Georgia in Augusta. Dr. McCurdy was born in Stone Mountain, the son of the late Dr. W. T. McCurdy and Mamie Tuggle McCurdy. He graduated from the University of Georgia School of Medicine, Augusta, in 1935. He had returned to Thomaston about a year ago after he attended a medical school in New York, following his discharge from the Army. Prior to his Army service he had practiced medicine in Silvertown. He was a member of the Upson County Medical Society, the Medical Association of Georgia, and was a fellow of the American Medical Association. He is survived by his wife, Mrs. Florence McCurdy; two brothers, Dr. W. T. McCurdy, and John Steve McCurdy, and four sisters, Misses Mary and Myrtice McCurdy, Mrs. J. R. Evans and Mrs. Mark Britt, all of Stone Mountain. Funeral services were held at the Thomaston Presbyterian Church, with the Rev. Richard F. Simpson officiating. Burial was in West View Cemetery, Atlanta.



# MEMBERS REGISTERED AT THE NINETY-SEVENTH ANNUAL SESSION OF THE MEDICAL ASSOCIATION OF GEORGIA

AUGUSTA, APRIL 22, 23, 24, 25, 1947

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Adair, M. C., Washington  
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Atkinson, Harold C., Macon  
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Avera, J. B., Brunswick  
Ayers, A. J., Atlanta  
Ayers, C. L., Toccoa

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Barrett, Clara B., Atlanta  
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Baxley, W. C., Blakefy  
Baxley, W. W., Macon  
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Beasley, B. T., Atlanta  
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Bell, J. E., Augusta  
Bell, Rudolph, Thomasville  
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Bent, H. F., Midville  
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Bivings, Lee, Atlanta  
Blaine, B. C., Atlanta  
Boling, Edgar, Atlanta  
Boswell, W. C., Macon  
Boyd, B. H., Atlanta  
Boynton, Estelle P., Atlanta  
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Brawer, Albert F., Atlanta  
Brittingham, John W., Augusta  
Brown, Chas. T., Jr., Guyton  
Brown, F. Bert, Savannah  
Brown, Lester A., Atlanta  
Brown, Robert L., Atlanta  
Brown, Stewart D., Royson  
Brown, Walter E., Savannah  
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Bryans, C. I., Jr., Baxley  
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Burch, J. C., Atlanta

Burdine, W. E., Blue Ridge  
Burdshaw, W. J., Augusta  
Burgess, Taylor S., Atlanta  
Burleigh, Bruce D., Marietta  
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Byne, J. M., Waynesboro  
Byne, J. M., Jr., Waynesboro  
Byrd, T. Luther, Atlanta

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Campbell, James L., Jr., Atlanta  
Campbell, John D., Atlanta  
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Chaney, Ralph H., Augusta  
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Green, James A., Jr., Athens  
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Harrison, F. N., Augusta  
Harrison, M. T., Atlanta  
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 Ketchum, C. W., Valdosta  
 Killam, F. H., Greensboro  
 Kilpatrick, C. M., Augusta  
 Kirkland, Spencer A., Atlanta  
 Kite, J. H., Atlanta  
 Klemann, Gilbert L., Augusta  
 Kupperman, H. S., Augusta

## L

Lamm, J. H., Atlanta  
 Lancaster, E. M., Shady Dale  
 Leaphart, J. A., Jesup  
 Lee, F., Lansing, Augusta  
 Lee, Howard B., Atlanta  
 LeRoy, A. G., Augusta  
 Leslie, John T., Decatur  
 Letton, A. H., Atlanta  
 Levington, Henry L., Savannah  
 Limbach, D. R., Atlanta  
 Linch, A. O., Atlanta  
 Lipton, Harry R., Atlanta  
 Little, G. H., Trion  
 Little, R. N., Summerville  
 Little, Tom F., Augusta  
 Logue, Bruce, Atlanta  
 Looper, Ben Keith, Canton  
 Lott, Oscar H., Savannah  
 Lowance, Mason I., Atlanta  
 Lowe, W. R., Midville  
 Lynn, S. C., Savannah  
 Lumsford, Guy G., Atlanta

## M

Major, Robert C., Augusta  
 Madden, S. C., Atlanta  
 Maloy, C. J., McRae  
 Malloy, M. L., Vienna  
 Maner, Edwin, Savannah  
 Manget, J. D., Jr., Atlanta  
 Mann, F. B., McRae

Martin, Elisabeth, Atlanta  
 Martin, J. D., Jr., Atlanta  
 Martin, John M., Augusta  
 Martin, Robert B., Cuthbert  
 Martin, Walter D., Shellman  
 Martin, W. O., Jr., Atlanta  
 Mashburn, Marcus, Cumming  
 Mass, Max, Macon  
 Massengale, L. R., Augusta  
 Mathews, Marion W., Augusta  
 Matthews, W. Eugene, Augusta  
 Maxwell, E. J., Jr., Lexington  
 May, E. R., Lincolnton  
 Mays, J. R. S., Macon  
 McAllister, J. A., Atlanta  
 McArthur, Chas. E., Cordele  
 McCall, John T., Jr., Rome  
 McCarver, W. C., Vidette  
 McCarver, W. C., Jr., Glennville  
 McCollum, R. R., Jr., Kingsland  
 McCord, M. M., Rome  
 McCord, Ralph B., Rome  
 McCoy, W. R., Folkston  
 McCurdy, Jas. W., Thomaston  
 (Deceased)

McDaniel, J. G., Atlanta  
 McDaniel, J. Z., Albany  
 McDonald, Harold P., Atlanta  
 McDougall, J. Calhoun, Atlanta  
 McElveen, J. M., Brooklet  
 McGeary, W. C., Madison  
 McGee, H. H., Savannah  
 McGinty, Howard C., Augusta  
 McGuire, T. H., Union Point  
 McKemie, W. F., Albany  
 McLaughlin, C. K., Macon  
 Mealing, H. G., Augusta  
 Mercer, J. E., Vidalia  
 Metts, J. C., Savannah  
 Milford, J. Hubert, Hartwell  
 Miller, A. W., Augusta  
 Miller, Harold A., Augusta  
 Minchew, B. H., Waycross  
 Mitchell, F. B., Jr., Metter  
 Mitchell, Wm. E., Atlanta  
 Mixson, Harry, Valdosta  
 Mobley, J. W., Thomasville  
 Mooney, John, Jr., Statesboro  
 Moore, Haywood L., Brunswick  
 Moore, H. M., Thomasville  
 Morrison, Howard J., Savannah  
 Mountain, G. W., Augusta  
 Muecke, H. W., Waycross  
 Mulherin, Charles M., Augusta  
 Mulherin, F. X., Augusta  
 Mulherin, Philip A., Augusta  
 Mulkey, Arnold P., Millen  
 Mulkey, Q. A., Millen  
 Murphy, W. J., Atlanta  
 Muse, L. H., Atlanta  
 Myers, Martin T., Atlanta

## N

Neely, F. L., Atlanta  
 Neuberger, S., Charlotte, Macon  
 Nevil, J. L., Metter  
 Newman, W. A., Macon  
 Newsome, Emory G., Sandersville  
 Newton, R. G., Macon  
 Nicolson, Perrin, Atlanta  
 Nippert, Philip, Atlanta  
 Norris, Jack C., Atlanta  
 Norvell, J. T., Atlanta

## O

O'Connor, F. L., Rossville  
 Oliphant, J. B., Adel  
 O'Neal, Buford L., Atlanta  
 Osborne, Elton S., Savannah  
 Osborne, V. W., Atlanta  
 Overby, N., Sandersville

## P

Palmer, J. W., Ailey  
 Parker, Lee, Greensboro  
 Paullin, James E., Atlanta  
 Payne, Rufus, Rome  
 Pendergrass, R. C., Americus  
 Penland, J. E., Waycross  
 Pennington, C. L., Macon  
 Pennington, L. E., Atlanta  
 Pennington, Veronica M., Milledgeville  
 Perkins, Henry R., Griffin  
 Perry, R. E., Jr., Valdosta  
 Persall, John T., Augusta  
 Person, W. E., Atlanta  
 Peterson, T. A., Savannah  
 Phillips, A. M., Macon  
 Philpot, W. K., Augusta  
 Pierotti, Julius V., Atlanta  
 Pilcher, J. J., Wrens  
 Pilcher, J. W., Louisville  
 Pinholster, J. H., Savannah  
 Pinkston, A. G., Jr., Glennville  
 Pinson, Harry D., Augusta  
 Pittman, C. S., Jr., Tifton  
 Poer, David Henry, Atlanta  
 Pomeroy, W. L., Waycross  
 Pope, Edgar M., Macon  
 Porch, Leon D., Macon  
 Powell, Vernon E., Atlanta  
 Price, W. T., Augusta  
 Pruitt, Marion C., Atlanta  
 Pund, Edgar R., Augusta

## R

Rabun, John B., Millen  
 Rawlings, F. B., Sandersville  
 Rawlings, Wm., Sandersville  
 Rayle, Albert L., Atlanta  
 Reavis, W. F., Waycross  
 Redfearn, J. A., Albany  
 Redmond, C. G., Savannah  
 Redmond, C. R. A., Savannah  
 Reifler, R. M., Macon  
 Revell, Walter J., Louisville  
 Reynolds, H. M., Cairo  
 Rhodes, R. L., Augusta  
 Rice, Guy V., Atlanta  
 Rice, Keith C., Atlanta  
 Richardson, C. H., Macon  
 Richardson, C. H., Jr., Macon  
 Ricketson, G. M., Douglas  
 Ridgway, R. E., Royston  
 Ridley, C. L., Sr., Macon  
 Reiser, Charles, Atlanta  
 Reith, Paul L., Atlanta  
 Rinker, J. Robert, Augusta  
 Risteen, W. A., Augusta  
 Roberts, C. Purcell, Atlanta  
 Roberts, C. W., Atlanta  
 Roberts, W. V., Lumpkin  
 Robertson, Righton, Augusta  
 Rogers, Harry, Atlanta  
 Rogers, J. V., Cairo  
 Rollins, J. C., Dalton  
 Roper, C. J., Jasper  
 Rosen, Samuel F., Savannah  
 Ross, Thos. L., Jr., Macon  
 Roule, J. Victor, Augusta  
 Rubin, S. N., Gordon  
 Rudder, Fred F., Atlanta  
 Russell, Paul T., Albany.

## S

Sage, Dan Y., Atlanta  
 Sanchez, A. S., Atlanta  
 Sanders, F. R., Decatur  
 Sapp, Clarence J., Rome  
 Scales, S. F., Carrollton  
 Schaefer, Bruce, Toccoa  
 Schley, Frank, Columbus

Schmidt, Henry L., Jr., Augusta  
 Schneider, M. M., Savannah  
 Schenck, H. C., Atlanta  
 Schwall, Edw. W., Gracewood  
 Seaman, H. A., Waycross  
 Seay, E. F., Marshallville  
 Selman, W. A., Atlanta  
 Sellers, T. F., Atlanta  
 Semans, James H., Atlanta  
 Shackelford, B. L., Atlanta  
 Shanks, Edgar D., Atlanta  
 Sharp, C. K., Arlington  
 Sharpley, Helen A., Savannah  
 Sharpley, H. F., Jr., Savannah  
 Sharpley, J. G., Savannah  
 Shaw, L. W., Savannah  
 Shearouse, Wm., Savannah  
 Shepard, Duncan, Atlanta  
 Sherman, J. H., Augusta  
 Shiflet, Robert E., Toccoa  
 Sikes, Z. S., Milledgeville  
 Simmons, J. O., Woodbine  
 Simmons, J. W., Brunswick  
 Simmons, Wm. G., Sylvania  
 Simonton, Fred H., Chickamauga  
 Simpson, A. W., Jr., Washington  
 Simpson, John A., Athens  
 Singer, Arthur G., Toccoa  
 Sinkoe, Samuel J., Atlanta  
 Skobba, Joseph S., Atlanta  
 Smith, Harold M., Savannah  
 Smith, Inman, Rome  
 Smith, J. E., Fitzgerald  
 Smith, J. Gregg, Savannah  
 Smith, Leo, Waycross  
 Steadman, Henry E., Atlanta  
 Stelling, Henry G., Atlanta

Stewart, C. B., Atlanta  
 Stewart, J. Benham, Ft. McPherson  
 Stillwell, John D., Atlanta  
 Suarez, Raymond, Macon  
 Swilling, Evelyn, Macon

## T

Talmadge, Sam M., Athens  
 Taylor, R. L., Davisboro  
 Templeton, C. M., Augusta  
 Tessier, Claude E., Augusta  
 Thomas, David R., Jr., Augusta  
 Thomas, Wes C., Brunswick  
 Thomason, C. Griggs, East Point  
 Thompson, Cleveland, Millen  
 Thompson, D. N., Elberton  
 Thompson, E. F., Valdosta  
 Thurmond, Allen G., Augusta  
 Thurmond, J. W., Augusta  
 Tidmore, J. C., Dawson  
 Torpin, Richard, Augusta  
 Touchton, George L., Savannah  
 Travis, W. D., Covington  
 Tucker, John P., Bainbridge  
 Turner, Edwin W., East Point  
 Turner, John W., Atlanta  
 Turner, W. W., Nashville

## U

Upchurch, W. E., Atlanta

## V

Van Buren, E., Atlanta  
 Vella, Paul D., Atlanta  
 Vinson, Frank, Fort Valley  
 Vinson, T. O., Griffin  
 Vinton, Luther M., Atlanta  
 Volpito, Perry P., Augusta  
 Vonderlehr, R. A., Atlanta

## W

Ward, E. L., Gainesville  
 Ware, D. B., Fitzgerald  
 Ware, F. L., Warrenton  
 Ware, Ford, Macon  
 Wasden, Charles, Macon  
 Waters, A. J., Statesboro  
 Watson, Edwin R., Macon  
 Watson, O. O., Macon  
 Watt, C. H., Thomasville  
 Weeks, Richard B., Augusta  
 Weaver, H. G., Macon  
 Weaver, Olin H., Macon  
 Weens, H. S., Atlanta  
 Welch, L. L., Marietta  
 Whelan, E. J., Savannah  
 Whitley, James R., Dalton  
 Whitman, O. F., Albany  
 Wilkes, William A., Augusta  
 Williams, David C., Jr., Milledgeville  
 Williams, John Weldon, Jr., Lavonia  
 Williams, L. W., Savannah  
 Williams, W. J., Augusta  
 Willingham, T. I., Atlanta  
 Wilson, C. A., Jr., Brunswick  
 Winston, Richard K., Tifton  
 Wolfe, David M., Albany  
 Wood, D. Lloyd, Dalton  
 Wood, O. S., Washington  
 Wood, R. Hugh, Atlanta  
 Woodbury, R. W., Augusta  
 Woolley, Lawrence F., Atlanta  
 Word, J. J., Decatur  
 Wright, Geo. W., Augusta  
 Wright, Peter B., Augusta

## Y

Yampolsky, Jos., Atlanta

## WOMAN'S AUXILIARY TO THE MEDICAL ASSOCIATION OF GEORGIA

### WOMAN'S AUXILIARY NEWS AND OFFICERS FOR 1947 - 48

*President*—Mrs. W. G. Elliott, Cuthbert.  
*President-elect*—Mrs. Sam Anderson, Milledgeville.  
*First Vice-president*—Mrs. Shelley C. Davis, Atlanta.  
*Second Vice-president*—Mrs. W. D. Hall, Calhoun.  
*Third Vice-president*—Mrs. Robert Crichton, Lithonia.  
*Recording Secretary*—Mrs. Harry M. Kandel, Savannah.  
*Corresponding Secretary*—Mrs. J. C. Patterson, Cuthbert.  
*Treasurer*—Mrs. R. C. McGahee, Augusta.  
*Historian*—Mrs. J. E. Billings, Calhoun.  
*Parliamentarian*—Mrs. Ralph Chaney, Augusta.  
*Press and Publicity*—Mrs. Jeff L. Richardson, Atlanta.

#### Chairmen of Committees

*Archives*—Mrs. Eustace A. Allen, Atlanta.  
*Revisions*—Mrs. Lee Howard, Savannah.  
*Mrs. J. Bonar White Exhibit and Scrapbook Awards*—Mrs. A. W. DeLoach, Waycross.  
*Mrs. James N. Brawner Trophy*—Mrs. Bruce Schaefer, Toccoa.

*Bulletin*—Mrs. W. L. Curtis, College Park.  
*Achievement Award*—Mrs. W. E. Matthews, Augusta.  
*Public Relations*—Mrs. Dewey Nabors, Atlanta.  
*Visual Education*—Mrs. C. S. Pittman, Jr., Tifton.  
*Legislation*—Mrs. John Elliott, Savannah.  
*Press and Publicity*—Mrs. Jeff L. Richardson, Atlanta.  
*Research and Romance of Medicine*—Mrs. J. L. Gallimore, Perry.  
*Doctors' Day*—Mrs. Charles Cooper, Macon.  
*Post-War Planning*—Mrs. L. W. Williams, Savannah.  
*Student Loan Fund*—Mrs. J. L. King, Macon.

### ANNUAL REPORT OF WOMAN'S AUXILIARY

to the

### MEDICAL ASSOCIATION OF GEORGIA

1946 - 47

Mr. President and members of the House of Delegates: As president of the Woman's Auxiliary to the Medical Association of Georgia I submit the following report of work accomplished from April 1946 to April 1947.

In August 1946 the Executive Board met joint-



ly with the Advisory Committee from the Medical Association. The theme for the year, objectives and plans were presented, discussed and approved. At that time your president, Dr. R. H. Chaney, reiterated that recommendation pertaining to the Auxiliary, which he made at your 1946 convention; namely, that the House of Delegates instruct the Auxiliary to at once undertake an educational program to reach all women's organizations, civic bodies, church groups and other related organizations to instruct them in regard to social trends, especially such trends as represented by the Wagner-Murray-Dingell bills.

With your permission I would like to give the Auxiliary a report in answer to the seven objectives of the year which were approved by the Advisory Committee. The theme: Four "B's"—Be friendly—Be informed—Be courageous—Be united—has been foremost in our minds and has been the foundation of every project undertaken. The objectives beginning with the seventh—promote *Hygeia* and subscribe to *The Bulletin*, official journal of the Woman's Auxiliary to the American Medical Association. *Hygeia*, Mrs. Shelley Davis, Atlanta, chairman, has been especially stressed this year as the approved health magazine, with an increase of 141 subscriptions, totaling 318 subscriptions in the State. *Hygeia* has been placed in public libraries, Negro schools, Y. W. C. A. and Y. M. C. A. assembly rooms, beauty parlors, and barber shops, as well as doctors' and dentists' waiting rooms. Mrs. D. H. Garrison, Clarkesville, reports 57 subscriptions to *The Bulletin*, national auxiliary journal.

The sixth objective that each county auxiliary have reciprocity meetings with other women's organizations. Twelve counties reported these meetings with other women's organizations, also giving talks on the programs on health subjects, government medicine and pre-payment medical plans. The estimate of people hearing these talks was reported as 2,630. We have worked directly with public relations' chairmen of other organizations. All material used on these talks was approved and furnished by the Council on Medical Service and Public Relations of the American Medical Association.

Five—Promote the work of public health. Each county auxiliary has taken an active part in public health activities, in the majority of cases auxiliary members serving as chairmen of committees and drives. Assistance has been given on the American Cancer Society and Red Cross drives, help with community surveys on health needs, nutrition commission, Social Hygiene Council, Crippled Children Inc., Well Baby Clinic also polio drive and tuberculosis seal sales. Our county auxiliaries have been 100 per cent in promoting public health.

The fourth objective was a lay program depicting what medicine has done, what it is doing, and what it will do in the future. This was an

objective of health education, and at the same time depicting to the laymen as well as our own members what the medical profession means to the human race. Mrs. J. P. Holmes, Macon, Health Education chairman, reports that programs were open to the public over the State on preventive medicine, sex education, mental hygiene, child health, nutrition, cancer and tuberculosis. People reported hearing these talks numbered 3,950. Mrs. J. L. Gallemore, Perry, chairman of Research in Romance of Medicine reports that nine papers were received on the lives and works of Georgia doctors. This has been compiled in booklet form. Sixteen counties were heard from. The state history has been brought up to date by Mrs. Charles Usher, Savannah, historian. The Scrapbook, Mrs. Sam Anderson, Milledgeville, chairman; and Exhibits, Mrs. W. D. Hall, Calhoun, Archives, Mrs. Eustace Allen, Atlanta, preserve for the future the accomplishments and activities of the Medical Association and its Auxiliary.

The third and very important objective, an active public relations, health and legislative committee in each county auxiliary. Every county has had these committees either separately or together. Mrs. John Elliott, Savannah, chairman, legislation reports: 14 auxiliaries report members posted on legislation pending, 12 auxiliaries had programs explaining the meaning of so-called health insurance, 9 auxiliaries sponsored like programs in other organizations, 2 auxiliaries sponsored radio programs on socialized medicine, and 4 auxiliaries sponsored like programs in newspapers. One auxiliary worked its educational program on socialized medicine in cooperation with the citizens' health committee and the Chamber of Commerce. Your Georgia president is a member of the National Legislative Committee serving as Southern Regional Director of the Woman's Auxiliary to the American Medical Association. The chairman of Public Relations, Mrs. Kells Boland, Atlanta furnished each county auxiliary with the material from Medical Economics and the American Medical Association Journal on the Wagner-Murray-Dingell bill, also information on voluntary pre-payment medical plans and other statistics for study and use in carrying out programs. Reports from the counties on the use of this material for themselves and for other organizations are very gratifying.

In reporting one of the most important outlets of material and information, the president would like to take this opportunity to tell the House of Delegates of the splendid cooperation the Auxiliary received from the Georgia High School Association. A subject pertaining to government medicine was used for debate in Georgia high schools. The Auxiliary furnished material for these debates; some was purchased but the majority came from American Medical Association headquarters in Chicago and the National Phy-

sicians' Committee. This material was all distributed through the office of Mr. Sam Burke, Secretary of the Georgia High School Association. The president is glad to report that over 200 debates were held in the State on this subject.

Visual Health Education, Mrs. R. T. Neville, Savannah, chairman, shows that 72 health films were shown to approximately 4,600 people. The approximate number of health literature distributed was 4,425 pieces. Each county auxiliary made a study of and presented a program on "The Ten Point Health Program" authored and advocated by the American Medical Association.

Objective two: Educate ourselves as to the nature of the ideals, ethics and standards upon which medicine is operated. Copies of the paper "Teamwork in Medicine," by Dr. Francis P. Hammond, were sent each auxiliary and most counties had a program on it. Dr. Hammond wrote the paper last year when he was chairman of the Advisory Committee to the Woman's Auxiliary to the Illinois State Medical Society.

The first objective was to enlist the interest of every doctor's wife in auxiliary work, thereby developing an effective woman's auxiliary to the Medical Association of Georgia. Mrs. W. G. Elliott, Cuthbert, chairman of Organization reports the organization or re-organization of six auxiliaries, making a total of 24 county auxiliaries over 16 last year, with a membership increase from 514 to 700 members this year.

Mrs. Charles Cooper, Macon, reports 15 auxiliaries observing Doctors' Day. Contributions to Jane Todd Crawford Memorial were sent Mrs. B. E. Collins, Waycross, chairman, and Mrs. Lon King, Macon, received money for the Student Loan Fund. The Auxiliary gives two awards each year, the Mrs. Jas. N. Brawner Trophy and the Achievement Award given by Mrs. Olin S. Cofer, Atlanta. Mrs. W. T. Randolph and Mrs. L. W. Williams served as chairmen of these awards.

We have had publicity in the *Atlanta Constitution* every month and a page in the State Medical Journal three months. Mrs. Jeff Richardson of Atlanta is chairman.

This report of the year's work is the result of the combined cooperative efforts of each individual member of the Auxiliary, officers and members alike. It has been a successful year, for doctors' wives have taken their place in meeting the problems in local and national health projects.

May we continue to grow and serve the profession to which we are so clearly allied.

Respectfully submitted,

ORVILLE T. SCHAEFER

(MRS. BRUCE SCHAEFER) *President.*

## NEWS ITEMS

The Bibb County Medical Society held its regular meeting at Ridley Hall, Macon, May 6. Program: "Chronic Granular Urethritis in the Female" by Dr. W. R. Golsan, Macon. Dr. A. M. Phillips, secretary.

\* \* \*

Dr. Edward S. Armstrong, Atlanta, who has been director of Atlanta Public Health Center No. 1 at 11 Hunter Street, S. W., for six years, submitted his resignation to Dr. James F. Hackney, director of the City Health Department, effective May 31. Dr. Armstrong will practice medicine at Albany.

\* \* \*

Dr. Everett L. Bishop, Atlanta, has been promoted from associate professor of pathology to professor of pathology (neoplastic diseases) at Emory University School of Medicine.

\* \* \*

Dr. Adolphus Bray, Jr., formerly of Dalton, announces the opening of his office in the County Office Building, Buchanan, for the practice of medicine.

\* \* \*

Dr. W. E. Burdine, Blue Ridge, has been endorsed by his local Post, Charles S. Griffin Post No. 23, for commander of the Georgia Department of the American Legion, in a resolution passed recently by unanimous vote. This is the first opportunity Georgia veterans will have of voting for a World War II man for department commander.

\* \* \*

Dr. Everett L. Bishop, Atlanta, was elected vice-president of the International Association of Medical Museums and Technical Methods at the recent meeting held in Chicago. He has been a member of the council since 1939.

\* \* \*

Dr. R. Frank Cary, Macon, city-county health officer, was presented the April Civic Service Award of the Macon Aerie, Fraternal Order of Eagles, recently, for his "efforts in controlling contagious diseases in Macon."

\* \* \*

A PHYSICIAN HONORED. The people of Augusta have received with much interest the announcement of the honor paid to Dr. Warren Coleman by the City of New York in its citation for distinguished service in the hospitals of New York.

The recognition accorded to Dr. Coleman was a gracious gesture that came as a complete surprise to him. This citation gave well-merited recognition of the selfless devotion to medicine and humanity that has characterized Dr. Coleman's entire medical career. For the major portion of his life, Dr. Coleman has given to his profession all the talents of an able brain plus sympathy for and understanding of people in need of medical aid. Gentleness and kindness have reinforced his medical knowledge, adding greater value to his medical skill and graciousness to his later years.

It is good to know that these things are yet remembered in the great city of New York—*Augusta Chronicle*, May 3, 1947.

\* \* \*

Dr. O. F. Deen, well-known Douglas physician, recently spent a week at the McCoy Hospital, Folkston, helping Dr. McCoy take care of the hospital's unusually heavy schedule of work. The physician and his hospital staff have been taxed beyond capacity to take care of the medical and surgery needs of Folkston and surrounding area.

\* \* \*

Dr. John B. Duncan, Atlanta obstetrician, and Dr. Floyd W. McRae, Atlanta surgeon, will fly to Ireland July 3 for the 200th anniversary celebration of the famous Rotunda Lying-In Hospital at Dublin and the International Congress of Obstetricians and Gynecolo-



gists. The two physicians will be joined in New York by Dr. Frederick Freed of that city. At the conclusion of the celebration, which will be attended by physicians and surgeons from all over the world, Drs. Duncan and McRae will visit hospitals in England, Sweden and Norway.

\* \* \*

Dr. L. P. Elam, Jr. who recently graduated from the University of Georgia School of Medicine, Augusta, announces the opening of his office in the Rozier Building, Sparta, for the practice of medicine. Dr. Elam was associated with Dr. H. L. Earl, Sparta, last summer in the practice of medicine.

\* \* \*

Dr. L. H. Griffin, Claxton, recently added an x-ray machine to his office equipment. He also added several beds for the convenience of minor surgery patients.

\* \* \*

Dr. Curtis G. Hames, Claxton, recently discharged from the U. S. Army Medical Corps, announces the opening of his office at Claxton, for the practice of medicine. Dr. Hames is a graduate of the University of Georgia School of Medicine, Augusta, and served as medical officer on the George Washington Carver and later on the U.S.S. Louis A. Milne, the largest Army hospital ship. He was stationed at Seattle, and was at San Francisco at the time of his discharge.

\* \* \*

Dr. Charles W. Hock, Augusta, presented a paper entitled "Radiation Injuries of the Intestines" at the Duke Medical Alumni Association meeting held at Durham, N. C., April 25-26.

\* \* \*

Dr. Paul Holcomb, Clarkesville, announces his association with Dr. D. H. Garrison, Clarkesville, for the practice of medicine.

\* \* \*

DAWSON DOCTOR IS HONORED. The honor bestowed upon Dr. Steve Kenyon as president of the Georgia Medical Association at its convention in Augusta last week was well merited and is a source of pride to Dawson and Terrell County. It was not only a tribute to Dr. Kenyon but to the city and state.

Long recognized as one of Georgia's most eminent physicians, Dr. Kenyon has always taken a keen interest in his profession and fellow man. For the past quarter of a century, he has served the people of our community and section patiently, creditably and with a high degree of medical ability.

As president of the Georgia Medical Association, Dr. Kenyon can be expected to be of even greater service to the profession and people generally. His published plans in this connection augur well for his administration. It has certainly gotten off to an auspicious beginning.

The News congratulates the doctors of Georgia on their wise choice of Dr. Kenyon as their leader and predicts great forward strides in the medical profession in the state during his term of office. *Dawson News*, May 1, 1947.

\* \* \*

Dr. J. E. Mercer and Dr. O. S. Gross, Vidalia, recently purchased the City Hospital of Vidalia from Dr. W. W. Aiken, Lyons. The City Hospital will be operated as the Gross-Mercer Hospital, Inc. and the new owners have announced that all physicians in the surrounding territory are cordially invited to bring their patients to this facility. Dr. Mercer has been practicing medicine in Vidalia since 1918, and Dr. Gross has been practicing as a physician and surgeon for more than a decade.

\* \* \*

The Georgia Baptist Hospital staff dinner meeting was held in the dining room of the nurses' home, Atlanta, May 26. Two interesting cases were presented for discussion. A. M. Dimmock, M.D., secretary.

Dr. Rufus Payne, superintendent of Battey State Hospital, Rome, recently addressed the annual meeting of the Atlanta Tuberculosis Association at Atlanta. Dr. Payne discussed his work with streptomycin in the experimental treatment of tuberculosis patients at Battey hospital.

\* \* \*

Dr. Lamar B. Peacock, Albany, was recently appointed resident physician of Phoebe Putney Hospital, Albany. Dr. Peacock graduated from the University of Georgia School of Medicine, Augusta in 1946.

\* \* \*

Dr. Claude T. Prevost, formerly of Atlanta, announces the opening of his offices at 627 North Fant Street, Anderson, S. C. Practice limited to internal medicine.

\* \* \*

Dr. Charles L. Prince, Savannah, recently presented a paper entitled "Management of the Ureteral Stone" at the meeting of the Georgia Medical Society, 612 Drayton Street, Savannah. Dr. Prince began his local practice, limited to urology, last fall after several years' study and practice in that field at Johns Hopkins Hospital, Baltimore.

\* \* \*

Dr. Turner Rentz, Colquitt, recently completed his internship at Greenville Hospital, Greenville, S. C., and has been named a member of the Houston Clinic staff, Colquitt.

\* \* \*

Dr. J. O. Simmons, Woodbine, recently spent several days observing new surgical and clinical technic at Cornell University, New York City.

\* \* \*

Dr. D. F. Smiley, of the Bureau of Health Education, American Medical Association, Chicago, recently addressed the annual meeting of the Augusta-Richmond Tuberculosis Association held in the auditorium of the Georgia Power Company, Augusta.

\* \* \*

The Georgia Medical Society held its regular meeting at the society's hall, 612 Drayton Street, Savannah, May 27. Scientific program: "Trifacial Neuralgia" by Dr. J. K. Quattlebaum. Discussed by Dr. Robert F. Sullivan. Dr. G. H. Johnson, Jr., secretary.

\* \* \*

The State Board of Medical Examiners recently announced the licensing of 133 physicians to practice medicine in Georgia. Dr. R. C. Coleman, Atlanta, is joint secretary of the State Examining Boards.

\* \* \*

Dr. Newton Ware, a native of Warrenton, was recently named resident physician in obstetrics and gynecology at the Macon Hospital, Macon. Dr. Ware, a graduate of the University of Georgia School of Medicine, Augusta, joined the staff of the Macon Hospital upon his release from active duty as a naval surgeon with the U. S. Naval Hospital, Dublin.

\* \* \*

Dr. M. E. Winchester, Brunswick, Glynn County Health Commissioner and public health consultant of Camden County, discussed "The Fundamental Principles of Health" at the Woodbine P.T.A. meeting, April 16.

\* \* \*

Dr. Samuel Youngblood, Jr., Savannah, recently released from the Medical Corps of the Army of the United States, announces the opening of his offices at 108 East Taylor Street, Savannah, for the general practice of medicine and surgery.

\* \* \*

The Fulton County Medical Society held its dinner meeting at the Academy of Medicine, Atlanta, June 5. Program: "Removal of Large Abdominal Tumor in an Elderly Woman," case report, Drs. Olin S. Cofer and Albert L. Evans; "Use of Urethane in the Treatment of Leukemia," clinical talk, Dr. Tully T. Blalock, and "Brachial Neuritis," Dr. Homer S. Swanson.



# THE JOURNAL OF THE MEDICAL ASSOCIATION OF GEORGIA

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No. 7

## POSTPARTUM HEMORRHAGE AND SHOCK

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Obstetric hemorrhage, puerperal infection and the toxemias of pregnancy compose the triad of complications responsible for a large majority of maternal deaths. At the present time obstetric hemorrhage appears to have become the leader of these dread three. Because of the ever-present threat of excessive bleeding in the course of and following delivery and because of the high incidence of maternal deaths from this cause, the subject is timely.

Vital statistics of the State of Minnesota show that about 1933 a striking decrease in the maternal mortality rate began. In fact, this trend was more or less nationwide. This lowering of maternal death rate was caused by a sharp reduction in two of the leading causes of maternal deaths; namely, puerperal sepsis and the toxemias. The maternal death rate from obstetric hemorrhages, however, remained practically constant, except for minor fluctuations. For example, in Minnesota in the year 1934 the maternal deaths from puerperal sepsis, toxemia and hemorrhage were approximately twenty, eight and six respectively per 10,000 live births. By the year 1940 the incidence of deaths from sepsis for the same number of live births had dropped to nearly five, those from the toxemias to a little more than four

and the deaths from hemorrhage had failed to show any decrease.

I will not enumerate in detail the many factors responsible for this gratifying decrease in the rate of maternal deaths. No doubt a wider application of the principles of adequate prenatal care, of conservative and aseptic management of labor and the employment of chemotherapy have been potent factors in lowering maternal mortality caused by sepsis and toxemia. However, better obstetric education and an increase in the number of patients hospitalized for obstetric complications also should have helped lower the incidence of obstetric hemorrhage.

It was my privilege to serve as a member of a committee appointed by the Minnesota State Medical Association to make a detailed survey of the maternal deaths in Minnesota for a year, beginning July 1, 1941. This committee found that 21, or 18.7 per cent, of the 112 recorded maternal deaths in that year were due directly or indirectly to hemorrhage. In all of these cases prenatal care was adjudged to be incomplete or inadequate. Conversely, no patient in Minnesota who was given adequate prenatal care died of obstetric hemorrhage during the year under scrutiny. No doubt the interest and energy which impel physicians to give adequate prenatal care influence them to keep themselves informed about conservative obstetric management and the accepted methods of diagnosis and control of obstetric hemorrhage.

Within the time available for this paper it is not possible to review the whole subject of obstetric hemorrhage. To do so

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would require enumeration of the causes, symptoms, diagnosis and treatment of hemorrhage resulting from many complications of pregnancy—chiefly, extra-uterine pregnancy, abortion, placenta previa, premature separation of a normally implanted placenta and postpartum hemorrhage.

Among the various causes of obstetric hemorrhage, postpartum hemorrhage, defined as excessive bleeding following the birth of the baby, is responsible for the largest proportion of maternal deaths from hemorrhage. Loss of 500 c.c. of blood or more after birth of the baby generally is classified as postpartum hemorrhage. Careful analysis of the management of such cases has revealed that although deaths from postpartum hemorrhage are not entirely preventable, under ideal conditions they are almost preventable. These ideal conditions include adequate prenatal care, conservative management of labor and its third stage in an adequately equipped hospital, hemostasis and the replacement of loss of blood volume.

In a study of 140,000 deliveries quoted by Hunt<sup>4</sup> in a recent article on obstetric hemorrhage one death from hemorrhage was found to occur in about every 3,000 deliveries and one death from postpartum hemorrhage in about 8,000 deliveries. In another series of cases postpartum hemorrhage was a primary or contributing cause of death in 21 per cent of 4,134 women who died after reaching the third trimester of pregnancy<sup>1</sup>. It is worthy of note that these collected reports include deaths following hemorrhage wherein the immediate cause of death was sepsis, and which occurred before the use of chemotherapy. In experience at the Mayo Clinic, for example, two deaths followed severe hemorrhage in about 7,500 deliveries in a thirteen-year period and both of these deaths occurred prior to the advent of chemotherapy in 1937. In both cases too sepsis rather than exsanguina-

tion was the immediate cause of death. Incidentally, no deaths from hemorrhage have occurred in the past ten years among some 7,200 deliveries.

### *Causes of Postpartum Hemorrhage*

Let us inquire into the principal causes of postpartum hemorrhage. These are: (1) uterine inertia; (2) extensive laceration of the birth canal, and (3) retention of the placenta or parts of the placenta in the uterus. Less common conditions, such as uteroplacental apoplexy (Couvellaire uterus), rupture of the uterus, vulvar varicosities and inversion of the uterus, may produce alarming and even fatal hemorrhage.

*Uterine inertia.* One or more factors may operate to produce uterine inertia. Deficiency in muscular effectiveness may be owing to poor uterine musculature, as in cases of bicornate uterus, prolonged labor or overdistention of the uterus owing to a large fetus, twins or hydramnion, uterine tumors, analgesia and anesthesia. Some of these factors, such as an intrinsically weak uterine muscle, uterine tumors or overdistention, cannot be avoided; however, in the course of prolonged labor the strength of the patient, and incidentally the effectiveness of the uterine muscle, should be maintained by employment of fluids and rest, and analgesics and anesthesia should be used in moderation.

Lacerations of the birth canal may occur in the course of carefully conducted labor. Too frequently, however, ill-advised efforts to deliver the baby through an incompletely dilated cervix, manual dilatation of the cervix and unskilled and ill-timed use of obstetric forceps are responsible for severe lacerations of the birth canal and may even cause rupture of the uterus. Lacerations of severe degree which open arteries and veins dilated by pregnancy and labor are accompanied by more or less profuse hemorrhage.

Study of the case reports of maternal

deaths<sup>5 6 7</sup> often furnishes startling evidence of what to avoid in the management of labor. For example, among the ten deaths from postpartum hemorrhage reported in the study of maternal mortality in Minnesota previously mentioned, delivery in one case was by podalic version following two unsuccessful attempts to deliver the fetal head in an occipitoposterior position. Meager attempts were made to replace the blood lost but the patient died of shock and hemorrhage one hour and fifteen minutes later. "Autopsy revealed extensive lacerations of the cervix, vagina and external genitalia, a third degree laceration of the perineum and hemorrhage into the retroperitoneal tissues of the pelvis. The record states that a vaginal examination made a few minutes prior to delivery revealed a 'questionable anterior lip of the cervix.' This, coupled with the extensive lacerations of the cervix found at autopsy, would lead one to believe that the cervix was not completely dilated at the time of delivery, and that the patient had not yet entered the second stage of labor."

Mismanagement of the third stage of labor which is a common cause of postpartum hemorrhage usually can be avoided if the uterus is not tampered with during the stage of placental separation. Recognition of the two phases of the third stage, separation and expulsion, is so essential that brief mention will be made of the mechanism of this stage of labor.

Separation of the placenta occurs normally within five or ten minutes following delivery of the baby. At first the body of the uterus is globular. As it relaxes, it becomes soft and flattened and during this time the process of placental separation is occurring. As this separation is nearing completion, the uterus contracts again, becomes globular and rises to or slightly above the level of the umbilicus. At about

this time normally the placenta is expelled from the uterus and lies in the upper part of the vagina.

In order to ascertain whether the placenta has been expelled from the uterus pressure may be applied above the pubes with the ulnar aspect of the hand; if the placenta is still in the uterus the pressure causes the uterus to rise in the abdomen and the cord is drawn slightly into the introitus. If the placenta is in the vagina, the cord remains stationary or descends slightly from the introitus. If the fundus is handled too much or squeezed, the process of separation is disturbed, the placenta is only partly detached and bleeding occurs from the open sinuses. Such bleeding is likely to continue until the placenta is expelled or extracted manually.

Bleeding may be owing to uterine fibromyomas which prevent the uterus from contracting normally or, more commonly, the failure of the uterus to contract is the result of retention in the uterus of a succenturiate (accessory) lobe or fragments of the placenta, or of the entire placenta.

Severe postpartum bleeding may occur from the site of placenta previa; this is difficult to control because the sinuses at the site of the placenta, in such cases, are located in the lower portion of the uterine corpus and the cervix uterine junction. These sites are not compressed when the uterus contracts. It is noteworthy that in the presence of placenta previa any manipulative procedure which could cause laceration of the cervix must be avoided. Owing to involvement of the cervix and lower portion of the uterus in the site of the placenta, the normal elasticity of the tissues is impaired and ill-advised efforts to dilate the cervix rapidly are likely to produce severe bleeding from lacerations which involve sinuses in this region.



### *Observations on the Bleeding and Development of Shock*

When the placental site in the body of the uterus is the source of bleeding, the blood flows profusely. Bleeding from lacerations is usually somewhat less profuse but is more constant and, the blood being arterial, is brighter in color. Bleeding may be delayed as it is when the uterus relaxes, blood collects and clots form in the ballooned uterine cavity. In such instances large clots are expelled when the uterus contracts. Bleeding from a ruptured uterus may be concealed and may not be detected unless the attendant is alert to recognize the symptoms of internal hemorrhage.

Although usually postpartum hemorrhage becomes evident in the course of, or directly after, delivery of the placenta, serious and even fatal hemorrhage has occurred several hours and, infrequently, several days following delivery. In one case among the ten maternal deaths from postpartum bleeding previously mentioned, the fatal hemorrhage was not recognized until two hours after the completion of a cesarean section for toxemia of pregnancy.

Too much emphasis cannot be placed on the necessity for close observation of the patient directly after delivery and for the ensuing hour at least. As hours pass, the probability of severe bleeding lessens, but alertness to its possibility is necessary. Some twenty years ago I saw a patient who had a rather extensive hemorrhage, the cause of which was revealed more than thirty hours after delivery. Persistent bleeding from a laceration on the inner upper surface of the labia minora, which was not observed at the time of delivery, had drained into the vagina. For some time the bleeding was mistaken for uterine bleeding but as the uterus was contracted satisfactorily and as the cervix was not lacerated, many hours passed before the source of the bleeding was found and properly treated.

At the outset hemorrhage may not be accompanied by evidence of shock; that is, paleness, sweating, restlessness and sighing respirations, rapid pulse and falling blood pressure. Early in the course of excessive bleeding the pulse is not usually rapid and the blood pressure is not lowered appreciably. However, if bleeding continues close observation and repeated recordings of pulse rate and blood pressure are essential because the onset of a state of shock often is insidious. When bleeding persists the pulse rate quickens and the blood pressure is lowered and as the loss of blood approaches 500 c.c., the decrease in blood pressure becomes still more evident. The decrease of systolic blood pressure from 100 or more mm. of mercury systolic to 80 mm. or less, especially in the presence of a low pulse pressure, gives evidence that the patient is nearing or in a state of shock.

### *Treatment*

*Prophylactic measures.* As indicated in the foregoing discussion prophylaxis plays a leading role in reducing the incidence and severity of postpartum hemorrhage and shock. Adequate prenatal care including examination of the blood, treatment of anemia, if present, correction of nutritional deficiencies, early recognition and treatment of toxemia all help to reduce the incidence of bleeding. As a part of adequate prenatal examination, pelvic mensuration and estimation of the adequacy of the birth canal for the delivery of a fetus of normal size appears obvious. Lacking this information the physician confronted with dystocia may not be in position to exercise his best judgment. A large proportion of patients who have complications, including severe postpartum hemorrhage, have had inadequate prenatal examination and care.

Careful management of labor also plays an important part in avoidance of postpartum bleeding. If labor becomes protracted, exhaustion of the patient should be

prevented, or relieved in case it appears, by employment of sedatives to give periods of rest and by the intravenous administration of glucose, with or without saline solution, depending on whether toxemia is present. Excessive analgesia and anesthesia, which impair the contractile power of the uterus, should be avoided. During the third stage of labor precaution demands close observation of the amount of bleeding and of the state of uterine fundus from the time of the delivery of the baby to the primary contraction and retraction of the uterus accompanying separation of the placenta. The placenta should be inspected carefully and oxytocic drugs given the patient to accelerate and accentuate uterine contraction. The patient is put to bed; the fundus should be observed frequently and kept under control for at least an hour.

*Management of postpartum hemorrhage.*

In the management of postpartum hemorrhage the first consideration is to control the bleeding; the second is to replace the lost fluid, and the third is to treat the shock and anemia. Obviously it is essential to find the source of the bleeding and to take steps to control it.

If bleeding in the third stage results from incomplete separation of the placenta or its incarceration in the uterus, the placenta must be delivered. Sometimes this can be effected by simple expression or if this fails, the Crede maneuver may be employed. It will be recalled that in this procedure the uterus is grasped through the abdominal wall with the fingers behind and thumb in front and is squeezed as half an orange is squeezed to express the juice. If such efforts fail the placenta should be delivered without delay by manual removal under aseptic technic. This method also is employed for the removal of retained fragments of placenta or of an anomalous accessory (succenturiate) lobe of placenta.

Following expression or extraction of the placenta and the hypodermic administration of an oxytocic drug, such as pitocin, the uterus should contract firmly. Failure of the uterus to contract usually can be overcome by vigorous massage. If the urgency is great, massage is carried on effectively while the uterus is grasped with one hand on the abdomen and two fingers of the other hand in the vagina. Of course more rapid and prolonged action from an oxytocic drug, such as a suitable ergot preparation, is obtained by its intravenous administration; some obstetricians have advised the direct injection of an extract of the posterior lobe of the pituitary into the tissues of the cervix. Usually hemorrhage is controlled if uterine contraction is maintained. In case these methods do not control the bleeding, the birth canal should be carefully inspected at once to discover whether lacerations of the cervix or vagina may be causing the hemorrhage. When the bleeding is due to lacerations these should be repaired at once. Ordinarily lacerations of the cervix are not repaired unless bleeding occurs.

If bleeding continues to be excessive in spite of the treatment previously outlined, it is advisable at once to pack the uterus firmly with sterile gauze. Packing is most imperative when the uterus exhibits a tendency to relax. At the clinic we have tried and abandoned special packers. We continue to have the best results when the packing is carried out as follows: Two fingers are inserted in the uterus with the palm of the hand placed anteriorly. The gauze is carried along the fingers into the uterus with blunt tipped packing forceps or placental forceps. Washed iodoform gauze two inches wide in five-yard lengths is employed and several lengths are tied together when more packing is necessary in order to fill the uterus completely. In cases of placenta previa uterine and vaginal packs are placed routinely as a precautionary

measure following delivery, even though bleeding is not pronounced.

Occasionally hysterectomy has been a life-saving procedure in certain cases of massive uterine hemorrhage. When rupture of the uterus occurs, hysterectomy is, of course, imperative. Occasionally uncontrollable postpartum bleeding may be caused by submucous uterine fibromyomas. The following is one of several such cases recently reported by Hunt.

A primigravida, aged 31, had made twelve prenatal visits in the course of which it was noted that she had a fibroid uterus; spontaneous delivery of a normal female infant weighing 3,842 Gm. occurred after an uneventful labor. Because of persistent intractable postpartum hemorrhage which could not be controlled by the usual measures including proper uterine tamponade, subtotal hysterectomy was performed. The excised uterus contained a degenerating cervical fibroma measuring 6 cm. in diameter.

Hunt<sup>3</sup> reviewed the 5,207 cases in which deliveries had been performed at the Mayo Clinic in the years 1932 to 1941. He found that more than 300 c.c. of blood were lost in the course of and after delivery in 227 cases. Febrile morbidity occurred in 13.7 per cent of this group and in 10.4 per cent of 77 cases of the group in which the uterus was packed with iodoform gauze. In the last five years of this series the incidence of febrile morbidity reached the astonishingly low figure of 4.4 per cent among 46 cases in which the intra-uterine pack was employed.

We have used washed iodoform gauze for intra-uterine packing for more than thirty years. In that period only one patient has exhibited sensitivity to iodine. The reaction in this case consisted of slight generalized skin erythema which appeared after two successive deliveries in which an intra-uterine pack of iodoform gauze was employed. The first episode was thought to be a reaction to barbiturates but after the rash appeared for the second time it was attributed to sensitivity to iodoform. Iodoform gauze appears to inhibit the growth of organisms. When removed from the uterus after eight to seventy-two hours,

the gauze has lost the odor of iodoform and does not have the foul smell which invariably accompanies the removal of intra-uterine packs of plain gauze. Anderson and associates<sup>2</sup> found that washed iodoform gauze was fully as effective and as free from secondary infection as gauze impregnated with sulfanilamide.

Pregnant women have a 20 per cent increase in volume of blood. This increased amount of blood no doubt serves several physiologic purposes, one of which is to supply a reserve of blood to take care of the normal amount of blood lost coincident with delivery. This amount should be less than 300 c.c. When the amount of blood lost reaches 500 c.c. or more, the patient may be dangerously near to a state of shock. At this point it may be said that some method should be employed of measuring or estimating closely the amount of blood lost. Possession of reasonably exact information about the amount of bleeding enables the physician to be alert to the need for active measures before the patient goes into shock. Also this information gives a rough estimate of the amount of blood to be replaced.

A parturient woman should be given as much fluid intravenously as the amount of blood she has lost. When intravenous use of fluid is indicated, the infusion should be started without delay. Normal saline solution (except in cases of toxemia), or better still 5 per cent solution of glucose, should be used. The benefits of these solutions are transient and such fluids quickly should be supplemented by fluids with staying qualities. Whole blood is best to replace blood lost, but the employment of whole blood is not without risk. In spite of blood grouping and even cross-matching, incompatibility of the blood of donor and recipient may cause serious reactions. The Rh factor of both donor and patient must be known. The Rh factor is not frequently responsible



for transfusion reaction, but when it is the patient usually is extremely ill. At the clinic we had one serious transfusion reaction owing to Rh incompatibility among 344 transfusions of blood during or following delivery. The patient who had had hemorrhage from placenta previa almost died from the reaction which included suppression of urine after receiving several transfusions. Several years later, after discovery of the Rh factor, the patient's blood proved to be Rh negative. Transfusion of the pregnant or parturient woman should never be done inadvisedly.

When properly selected whole blood is not available, plasma may be employed. It was thought that the use of plasma in transfusions was entirely safe but it has been shown that severe and even fatal infectious jaundice has been transmitted to the recipient from some batches of pooled plasma. For a number of years we employed as much as 1,000 c.c. of 6 per cent solution of acacia when acceptable blood was not available. We have used it in a number of cases and it was used without mishap by our staff in more than 6,000 nonobstetric cases. Acacia is not absorbed quickly from the blood and remains in body tissues for months and even years. For this reason its intravenous administration has not been widely accepted. More recently 6 per cent solution of specially prepared gelatin in amounts up to 1,000 c.c. has been employed to increase blood volume and maintain blood pressure until acceptable whole blood or plasma is available. Solutions of gelatin remains in the blood not more than twenty-four hours and is quickly eliminated from the body.

In many instances the need for intravenous administration of fluids or blood becomes so urgent that transfusions are begun during the procedures employed to stop the bleeding. In the presence of shock from massive hemorrhage opera-

tive measures, particularly those requiring laparotomy, should be begun only after the shock is under control. Sometimes vasoconstricting agents, such as three minims of epinephrine, injected intravenously along with blood or other solutions are helpful at the outset of treatment of shock. Caution requires that the employment of epinephrine must be accompanied by the intravenous administration of sufficient fluid, at least 500 c.c., to meet the needs of the heart. When a large amount of blood is lost, it may be advisable to give fluids into more than one vein simultaneously. Sometimes fluids should be given under positive pressure in cases in which blood pressure is extremely low.

In the report<sup>5 6 7</sup> of the study of mortality in Minnesota, the following criticism was made of the case mentioned previously, in which death followed bleeding from extensive laceration of the birth canal: "The indications for the radical procedures used in the delivery of this patient are obscure. Apparently the need for replacing the blood loss was not recognized, nor was any attempt made to prevent further blood loss by repair of the lacerations. The fluids administered by vein during the one and one-quarter hours before death consisted of 200 c.c. of 10 per cent glucose and 200 c.c. of citrated blood. The criticism of the management of this case as related to the cause of death is as follows: 1. Incompetent management of the actual delivery; 2. Inadequate treatment for hemorrhage and shock; 3. Failure to check hemorrhage by repair of lacerations."

#### *Comment*

In conclusion, I wish to repeat that ill-advised operative procedures in the second stage of labor are responsible for many instances of severe postpartum hemorrhage. This was well illustrated by the data obtained by the Minnesota Maternal Mortality Committee, which showed the dis-

astrous results from the radical assault on the cervix to effect dilatation and delivery in cases of hemorrhage from placenta previa in preference to the employment of more conservative methods to control the hemorrhage. Probably the most common cause of serious postpartum hemorrhage, according to these data, is meddling management at the stage of placental separation.

Other significant errors in the management of obstetric hemorrhage noted by the Minnesota committee were failure of early recognition and the lack of prompt and adequate treatment for hemorrhage and shock. This serves to illustrate the need to anticipate complications, such as bleeding, by being alert to the possibility of its occurrence and to institute treatment before shock and partial exsanguination forces emergency action.

Complete hemostasis is imperative. One method may fail or may be only partially effective. Another method, which ordinarily is not employed, may be the only means of conserving the patient. Hunt stated concisely, "Control of serious obstetric hemorrhage often calls for radical invasion of the genital tract either vaginally or abdominally, to a degree that the conservative practitioner would not think of employing in his daily practice of obstetrics. Therefore, a rigid aseptic technic is imperative. It is small comfort to save a patient from hemorrhage only to have her die of subsequent sepsis. Adequate amounts of the sulfonamide compounds and of penicillin have been of use in occasional cases of sepsis but . . . the availability of these agents is no excuse for not providing . . . careful asepsis."

The early detection of shock is best obtained by close watch of blood pressure when bleeding persists or whenever the patient exhibits symptoms of restlessness, pallor and sweating.

When symptoms or readings of blood pressure indicate that shock impends or is actually present, blood, plasma or a suitable substitute should be administered intravenously to the patient promptly while other procedures are being carried out. An adequate quantity of whole blood is the best substitute for the blood lost. Sufficient blood should be given to maintain the concentration of hemoglobin at about 10 Gm. per 100 c.c. of blood or 60 per cent of normal.

Blood, safe in quality and adequate in quantity, safe plasma or a suitable substitute can be made available to every maternity hospital and community, provided that some individual or group of individuals in each community make it their job to provide them.

#### REFERENCES

1. The American Committee on Maternal Welfare, Inc.: Maternal care complications: the principles of management of some serious complications arising during the antepartum, intrapartum, and postpartum periods, Chicago, The University of Chicago Press, 1941, p. 51.
2. Anderson, H. E., Gardner, H. L., Gunderson, M. F., and Slack, J. M.: The use of uterine packs impregnated with sulfanilamide; a preliminary report, *Am. J. Obst. & Gynec.* 43:410-420 (March) 1942.
3. Hunt, A. B.: Obstetric hemorrhage, *Minnesota Med.* 26:355-362 (April) 1943.
4. Hunt, A. B.: Obstetric hemorrhage, *Col. Papers Mayo Clin. & Mayo Foundation.* 37:222-227, 1945.
5. Minnesota Maternal Mortality Committee: An analysis of deaths due to toxemia of pregnancy, *Minnesota Med.* 27:641-643 (August) 1944.
6. Minnesota Maternal Mortality Committee: An analysis of the obstetric deaths due to hemorrhage, *Minnesota Med.* 27:726-730 (September) 1944.
7. Minnesota Maternal Mortality Committee: Maternal deaths due to infection, *Minnesota Med.* 28:635-640 (August) 1945.

#### HEALTHGRAMS

Tuberculosis would be almost completely eradicated in our country in the near future if existing knowledge and facilities were fully and effectively utilized. *Statistical Bull., Met. Life Ins. Co., Nov., 1945.*

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Too often it is assumed that the control of tuberculosis is solely the health department's domain of action. This is not true, nor can it ever be true, so long as men practice the ancient art of medicine. The family doctor in the city, the country doctor going about from farm to farm, the village doctor in his office over the drug store know the people, have their trust, and guide their physical destinies. The educational pamphlets of a hundred organizations cannot have the enduring effect nor the permeating persuasiveness of the doctor's personal word. Herman E. Hilleboe, M. D., *Pub. Health Rep., Dec. 6, 1946.*

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The X-ray film, particularly in surveys, is only a screen in tuberculosis case finding. It can only pick out the normal from the abnormal. It is the important clinical follow-up investigation that must tag the positive carrier. Maurice Kovnat, M. D., *J.A.M.A., Mar. 29, 1947.*

## RINGWORM OF THE SCALP— AN EPIDEMIC IN GEORGIA

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During the past year there has been a rapid increase in the number of cases of ringworm of the scalp among children, particularly in Atlanta and in other cities in Georgia. At present the number of cases is indicative of a local epidemic. The Atlanta Public Health Department has done a wonderful job in detecting the cases of ringworm in its schools. It has been found that in some schools as many as 37 per cent of the boys and 13 per cent of the girls were afflicted with ringworm of the scalp. This is as great an epidemic as those reported in other cities, as New York, Chicago, Detroit and elsewhere.

To stamp out an epidemic of this kind the Health Department must have the co-operation of the local physicians. It has formerly not been necessary for most physicians to be familiar with the diagnosis and treatment of tinea capitis because of the rarity of the disease. Due to the recent spread of this disease in our State, as well as over the country, ringworm of the scalp has become a public health problem. Protection of the community is as important as treatment of the individual. The physician must be able to make a correct diagnosis, prescribe proper treatment and give the parents of the diseased children specific instructions in regard to the prevention of spread of the disease.

### *Etiology*

The two most common species of fungi that are causing our present epidemic are the *microsporon lanosum* and *microsporon audouini*. The infection is observed in children before the age of puberty. It is



FIGURE 1

*M. Lanosum* infection. The involved area shows stubby, broken off hairs, which are easily removed. The skin is inflamed. Response to treatment is good.

extremely rare in adults. *Tinea capitis* characteristically produces loosening and partial loss of scalp hair in patches and breaking off of the infected hair, which loses its luster. Inflammation is usually present, varying in degrees from fine, branny scaling in some cases to phlegmonous localizations in others. Atrophy and scarring may follow certain types of infection. Some cases are accompanied by kerion formation. This is a painful, elevated, boggy, erythematous localized tumefaction. It is often mistaken for an abscess.

The *microsporon lanosum* is also referred to as the "animal" type of fungus. The organism is usually transmitted to children by infected cats and dogs. There is noticeable loss of hair in the affected patches. Marked inflammation and tenderness are usually present. Broken off hairs in the patch and at the periphery of the lesion are removed with ease. Kerion formation is common. It is gratifying that most cases of the animal (*M. lanosum*) type respond readily to treatment.

The *microsporon audouini* is also called





FIGURE 2

Kerion. A phlegmonous, boggy, inflammatory swelling resembling an abscess. A frequent complication of *M. Lanosum*, *M. Fulvum* and *T. Gypseum* infection.

the "human" type of fungus. It is rarely found on animals and is transmitted directly or indirectly from human to human. In the present epidemic most of the cases are produced by this organism. Clinically, the main features of the lesions caused by the *M. audouini* are as follows:

1. The lesions are usually non-inflammatory or only slightly red. The patch usually appears dry and scaly.
2. The hair is broken off in the involved areas but these stubs are not easily removed as in the animal type.
3. Kerion formation is rare.
4. These cases as a rule are resistant to treatment and special care must be taken to bring about a cure.

#### Diagnosis

1. Clinical inspection as a rule will suggest the diagnosis of ringworm. Any patch of broken off hairs should be considered ringworm unless proven otherwise. A gray patch with fine scaling and a non-inflammatory base suggests the epidemic form (*M. audouini*). An inflammatory



FIGURE 3

*M. audouini* infection. The lesions are non-inflammatory and scaly. The infected hairs are not removed with ease. Resistant to most medications.

base or kerion formation suggests a *M. lanosum* infection. This inflammatory reaction may also appear in cases due to *T. gypseum* and *M. fulvum*. Cattle are the usual source of infection.

2. Microscopic diagnosis shows a mosaic sheet of spores around the hair shaft.

3. The most valuable diagnostic feature is quickly obtained by using the Wood light. This bulb produces a light which screens out all wave lengths except those in the near portion of the ultraviolet part of the spectrum (3,600 angstroms). These rays impart a fluorescence to the hairs infected with members of the microsporon group. A dark room must be used. The lamps may be purchased for a reasonable price through surgical supply houses or electrical and x-ray concerns. Both the *M. lanosum* and *M. audouini* give the infected hairs a bright greenish fluorescence. Use of the Wood light is indispensable in an epidemic. It is used in surveying schools, to

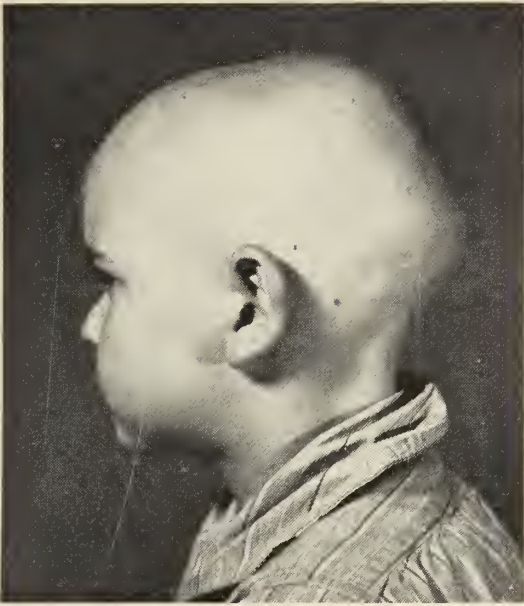


FIGURE 4

Scalp epilated with roentgen rays. The five-point Keimbock-Adamson method was used. The procedure is safe in experienced hands.



FIGURE 5

Four months after epilation. The hair gradually grows back to normal. The infection is cured.

detect early or unrecognized cases, and it is the only satisfactory method of determining when a case has been cured. A small percentage of fungus infections of the scalp do not produce fluorescence under the filtered ultraviolet rays. Fortunately, this is less than 5 per cent in our series of cases (*T. gypseum*, clinically similar to *M. lanosum*).

4. A cultural diagnosis is not practical for the general practitioner. It is done by dermatologists to confirm the clinical findings and to justify roentgen-ray epilation, should the patient show resistance to conservative therapy. Also it is important to confirm a diagnosis in cases where the hair does not fluoresce under the Wood light (*T. gypseum*, *T. crateriforme*).

#### *The Present Epidemic*

The great majority of cases of ringworm of the scalp seen in Atlanta are due to the *M. audouini*. In my private practice I culture all cases of tinea capitis. During the past twelve months I have found the following percentages:

*M. audouini* 78 per cent, *M. lanosum* 18 per cent, others 4 per cent.

The Public Health Department has been examining children in as many schools as possible by the means of the Wood light. This is the most rapid and reliable way to detect cases of ringworm among school children.

The report on one school in Atlanta gave this information: Number of boys, 300 with 80, or 37.5 per cent, infected; and girls, 282, with 21 or 13.4 per cent infected.

The number of infected children in other schools is much lower, but final statistics are not available at this time. From these figures it is quite evident that the ringworm is present in an epidemic form.

#### *Treatment*

All cases of ringworm (except favus) will usually disappear spontaneously at puberty. It is for this reason that most cases are found in young school children. The purpose of this paper is not to discuss the numerous ways of treating ringworm of the scalp but to give the general practitioner a practical routine that he may follow.

The animal type of ringworm (*M. lanosum*, *T. gypseum*) is usually self-limited



or responds to topical therapy within two months. Manual epilation with forceps of the infected hair and application of a 10 per cent ammoniated mercury ointment twice a day usually produce a cure.

The *microsporon audouini* infection is the epidemic form and is far more resistant to treatment. Roentgen-ray epilation of the scalp is far superior to any other method of treatment today. This type of treatment must be administered by a qualified and experienced dermatologist or radiologist.

Unfortunately, parents of many patients and also physicians seem to fear this mode of treatment. Recently the U. S. Health Service<sup>1</sup> recommended the use of salicylanilide ointment. Over 94 per cent of those treated with it had been cured. Over 30 per cent of the children were cured with less than 50 daily treatments while a few, if any, had over 100 daily treatments.

I have used the salicylanilide ointment\* in my private practice during the past year on a large number (58) of well controlled patients. To date I have found it effective in 64 per cent of the cases of *M. audouini* infection. Manual epilation seemed essential in the majority of the cases. The average length of treatment was three months. Two daily applications were given by the parent. Most of the failures were in cases where the disease was widespread, manual epilation was too painful and the parent or child was not cooperative. The average length of treatment was three months. Daily shampoo with superfatted soaps or sulfonated oils is recommended. I prefer the use of lowilla liquid and phisoderm (Winthrop). The frequent bathing with the usual soaps may cause excessive drying and irritation to appear.

The following instruction sheets are handed to the parents of each patient:

#### HOME CARE FOR RINGWORM OF THE SCALP<sup>2</sup>

This disease is infectious to other children. Bring all other children in your family who are under 14

years of age to the office or to the clinic for examination. The patient should not go to the barber shop. He should wear a clean stocking cap at all times, even to bed and while in school. As a precaution, any children in the family who do not have ringworm of the scalp should be cautioned against using the patient's comb, brush or cap. He should sleep alone if possible. Most cases are spread from backs of seats. All children infected should not be allowed to attend movies or indoor public gatherings. They should *not* be allowed in swimming pools and must not be sent to camp.

Please live up to these rules and help to stamp out this disease. It is gaining epidemic proportions in Atlanta school children. The cases of ringworm of the scalp seen during this epidemic are very resistant to treatment and usually require several months to get well. Careful attention to the above directions and regular attendance at the office or recommended clinics are essential for cure.

#### Treatment

1. If so instructed, when you get the child home, shave the entire scalp. Hand clippers may be used first if available. Be sure to boil the instruments for ten minutes after use. Cut a hole in a newspaper and place it on the child's shoulders to catch the hairs as they are shaved off. The hairs and newspaper should then be burned. The scalp should be shaved once a week.

2. At bedtime shampoo the scalp with the soap provided. It is helpful to gently massage the shampoo into the scalp with a soft brush (a used toothbrush is suitable). Then rinse and dry well and apply the salve to the entire scalp, rubbing it in well, especially on the patches of ringworm.

3. The infection is deep in the hair and cannot be cured until the infected hair comes out. If any areas are marked off with a pencil, all hair in these patches should be pulled out with tweezers. This is essential for cure, therefore the child must be made to understand, even though some pain and discomfort may accompany this procedure. It is best not to pull all hairs at one sitting, but divide the process over several days or even weeks. Too rapid removal of hair may cause the scalp to become inflamed and sore.

4. Apply a clean stocking cap and put the child to bed. Four or five stocking caps should be made so that a clean cap is always available. After using the cap it should be placed in boiling water for ten minutes before washing. The child should be cautioned to leave the cap in place once it is put on. This rule must be observed. If not the ringworm may spread from one patch to a normal area of the scalp and defeat the purpose of treatment.

5. The next morning shampoo the scalp again and reapply the salve. Put on a clean stocking cap. The child should wear it all day long, even while in school. In cold weather an ordinary cap may be worn over the stocking cap. Repeat this treatment every morning and every evening.

6. On arising the morning the child is to be brought to the office or to the clinic, his scalp should be shampooed, but no salve applied. This is important so that adequate examination under the Wood light can be made.

7. Cultures must be made to determine the type of ringworm present. Most cases respond slowly to treatment and the parent must be patient and cooperative for a period of several weeks. Careful attention to directions will bring earlier cure and prevent infection of other children.

8. A few cases will not respond to local treatment and roentgen-ray removal of the hair is essential for a cure.

#### Comments

The scattered epidemics of tinea capitis

\* Salinidol (Doak)

\* Salicylanilide-Phemerol Cream (Parke-Davis)



started during the war. The country-wide change of residence of members of the armed forces and war workers had an influence on the spread of the disease. Infected children were moved from place to place. Other factors involved were decreased maternal care, overcrowding in schools and insufficient supervision due to lack of personnel and equipment. I have examined several barber shops and moving picture houses with the Wood light. I believe the backs of seats where children rest their heads are the chief source of infection. Fluorescent spores and hairs have been found in large numbers in many theaters patronized by children.

To combat an epidemic various recommendations have been made in the medical literature.<sup>3</sup> Certainly some plan, as the following, should be tried:

1. A diagnostic center should be set up to find the extent of the infection, to assist in the diagnosis and to advise practitioners.

2. All schools should be surveyed periodically, setting up diagnostic clinics in districts where the disease is prevalent. The examination under the Wood light should be done and clinical records should be kept. In this manner treatment can be appraised, and if unsatisfactory the physician should be told of the advantages of referring the patient to a skin clinic or to a dermatologist for the special care required.

3. The Public Health Service as well as the medical society should acquaint the public through an educational campaign about the mode of dissemination of the infectious agent and the necessity of persistence and proper treatment.

It must be remembered that a certain percentage of cases will fail to respond to the topical applications of salves, and roentgen-ray epilation must be resorted to. In competent hands this method of treatment is safe and without harmful effects.

I use it in all cases of *M. audouini* infections that are very extensive and in those that fail to show any response to conservative therapy after a two months trial. In cases where cooperation of the parents is unsatisfactory, early epilation with roentgen rays should be done to prevent the possible exposure of others. Numerous local medications have recently been tried and recommended for the treatment of *M. audouini* infection. The salicylanilide ointment seems to be one of the most effective fungicides, but patience and persistence are equally as important.

#### REFERENCES

1. Schwartz, Louis, et al.: Control of Ringworm of the Scalp Among School Children, Public Health Bulletin number 294.
2. Carrick, Lee: Methods of Local Therapy for Tinea Capitis Due to *Microsporon Audouini*, J. A. M. A. 131:1189 (Aug.) 1946.
3. Lewis, Geo. M., et al.: Measures to Prevent and Control an Epidemic of Ringworm of the Scalp, New York State J. Med. 44:1281 (June) 1944.

## THE TREATMENT OF THERMAL BURNS

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The treatment of thermal burns is a subject of general disagreement regarding the best therapy, both as to first aid and definitive. One of the causes is a failure to understand the pathology and altered physiology of a burned patient. In 1832 Dupuytren classified burns into six groups according to depth of destruction. Since that time burns have been classified as first, second and third degree—first, an erythema of the skin without necrosis and only slight desquamation; second, formation of blisters containing plasma. Healing in this degree occurs by epithelial islands giving rise to sheets. Third, destruction of epithelium to the derma and deeper layers heals by granulation and cicatrization.

The disturbed physiology usually follows

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an unaltered course in an inadequately treated burn patient. Harkins<sup>15</sup> divides this course into three dangerous phases. The first phase is the period of shock usually considered to 48 hours after the burn. This is a condition of low cardiac output, low blood pressure, low blood plasma volume, and increased peripheral resistance to blood flow. Shock can usually be expected with a burned area of 15 per cent in an adult and approximately 8 per cent in a child.

The most important causes of burn shock are loss of circulating plasma and absorption of toxins. The former is demonstrated well by the rise in the hematocrit and hemoglobin. The toxin factor of burn shock is a more controversial point. However, Prinzmetal<sup>24</sup> found that rats whose single hind limbs were burned severely at 100 degrees centigrade for two to three minutes died in shock without visible edema, and exhibited insufficient local fluid loss to account for death. Pain, cold and heat have very little to do with the etiology of burn shock. Fox and Keston<sup>12</sup> demonstrated an increase of sodium in the intracellular compartments of the injured area, which possibly explains the loss of circulating plasma.

The second phase is the period of toxemia usually thought of from 48 to 120 hours. Here the signs are fever, jaundice, anuria, stupor, delirium and circulatory collapse. Despite adequate fluid therapy, toxemia has usually been explained as the inadequate treatment of shock with ischemic damage to the kidneys and other organs, the excessive administration of noncolloid electrolytes and reduction of plasma protein to edema levels, accompanying infection of the burned areas; and the absorption of toxins from the burned areas.

The third phase is usually considered the period of burn anemia and hypoproteinemia, which possibly develops in the first 72 hours.

Further disagreement on the treatment

of burns results from the failure of those reporting in the medical literature to differentiate between superficial damage and total skin destruction. The burn which is classified as second degree by the American Classification will heal practically with any form of local treatment, provided the area is protected from contamination and the local application does not destroy the remaining epithelial covering. The third degree will not heal without a prolonged period of granulation unless the treatment instituted, such as pyruvic acid dissolution of the eschar, allows earlier grafting; other treatments being removal of the eschar either by mechanical or chemical debridement.

Lund<sup>21</sup> advocates the classification of burns as presented by Converse and Robb-Smith<sup>8</sup>, since they describe the burn rather than giving a number:

- (a) Erythema followed by desquamation.
- (b) Blistering and superficial destruction of the derma.
- (c) Destruction to the deep layers of the derma.
- (d) Small areas of deep derma alternate with small areas of deep burns.
- (e) Destruction of whole thickness of the skin into or beyond the fat.

Also, at this point, it is well to consider the estimation of the area of burns. This has long been recognized to be useful in the prognosis of burns, but has an even greater significance attached as a guide to treatment along with careful evaluation of the laboratory and clinical picture of the patient. Many clinicians tend to overlook the fact which has been mentioned before that shock can usually be expected with a burned area of 8 per cent in a child and 15 per cent in an adult. Therefore one should have a working knowledge of area measurements and the changes in the areas affected by growth. Lund and Browder<sup>20</sup> have found

that Berkow's<sup>4</sup> tables for adults and children are over-simplified and contain repetitions which should be avoided. An example of this is the inclusion of the buttocks with the measurement of the trunk, and also the measurements of the posterior thighs. They have proposed a newer table which is considerably more accurate and includes the areas of growth.

The actual treatment of the burn after the pathology and physiology are well understood is best outlined here in order to keep the main topics in mind and then each is discussed more in detail.

1. Relief of pain, respiratory treatment, and treatment of shock.
2. Prevention of infection, local burn treatment, and nutrition.
3. Late care, such as plastic treatment.

*Relief of pain, respiratory treatment and treatment of shock* are listed together because they are of primary importance in immediately saving the life of the patient. However, this does not particularly apply to the relief of pain.

The relief of pain in the burned and conscious patient is very important in treatment, particularly if it is necessary to carry out further procedure which may involve the localized area and result in pain to the patient. Certainly any physician knows the virtues of morphine and the several other analgesics. The type of analgesic should be governed strictly by the patient's clinical condition, evidence of shock and anoxia. Such analgesics as Demerol and morphine should be given deep into the muscle where the circulation would be sure to pick them up more rapidly than subcutaneously because of slight to great slowing of peripheral blood flow. Giving such materials intravenously is surely a safer method as far as absorption is concerned.

Respiratory treatment is important since it is a complication of a few thermal burns where the patient presents with a history of

having inhaled smoke, particularly with loss of consciousness. The pathologic lesion is a necrotizing tracheobronchitis associated with cough, hoarseness, dyspnea and stridor.

Any patient suspected of such injury should be watched very closely. A tracheotomy kit should be near the bedside. Treatment here consists of a chemotherapeutic agent, such as intramuscular penicillin in doses of 25,000 units every three hours. Locally, bland soothing oils suffice.

The administration of noncolloid parenteral fluids, such as isotonic saline, may cause the patient to develop pulmonary edema. One of the most recent methods of treatment is aerosol penicillin by mask along with oxygen under positive pressure. This method tends to "dry" the pulmonary edema, since the machine is so constructed that on exhaling there is a small amount of positive pressure with a resultant expansion of the alveoli. In the recent Winecoff Hotel disaster in Atlanta, we had several such devices in Grady Hospital which produced remarkable changes in the physical findings of the patients suffering from smoke inhalation. The hospital stay was decidedly reduced and tracheotomy was never entertained. This tends to support somewhat the work of Finland, Davidson and Levenson<sup>11</sup> on respiratory injuries in the Cocoanut Grove disaster at Boston.

The treatment of burn shock is of basic primary importance when the physical findings are those of a diminished or unobtainable pulse and blood pressure. Hematocrit, hemoglobin, and red blood cell determination are useful in detecting shock prior to blood pressure fall. Therefore, serial determinations of any one of these hematologic principles every 2-3 hours, and possibly more often during the first 8 hours, is sufficient. The blood examined should be venous rather than capillary blood because of stagnation in the capillaries.



The first basis of shock treatment is to avoid any form of manipulation which will increase the shock and postpone, in so far as possible, necessary shocking procedures such as dressings, etc. The next principle is replacement of fluids to maintain a normal blood volume and prevent hemoconcentration. In burns the fluid that is lost is similar to or is plasma, therefore it seems logical to replace this by plasma transfusion. Human albumin has been used, and quite well, early in shock. The argument against this is that it will "flow out" into the tissues very easily because the increased capillary permeability allows the small-sized albumin molecules to escape rapidly. Whole blood was used extensively up to 1940 and now seems to be returning to popular use. The arguments against its use are the time consumed in crossmatching, possibility of reactions and the red cells present are thought not to be needed early in burns. Arguments for the use of whole blood include the fact that it contains the necessary plasma which is lost in burn shock. Moore<sup>22</sup> has conclusively shown that the red cells present in the whole blood have been proven to be useful since some of the red cells of the body are destroyed immediately from the burn. The remaining red blood cells have increased fragility as shown by Shen, Ham and Fleming<sup>27</sup>. At the very onset of the burn, the nitrogen balance becomes negative, therefore some withdrawal of nitrogen is from the red cells resulting in a progressive anemia. Additionally the red cells merely, by their size, tend to pull fluid into the vascular system and help slightly maintain blood volume. Therefore, from the above-mentioned reasons whole blood is the ideal fluid therapy. One must consider the use of glucose for glycogen storage in the liver as of basic importance.

Gelatin has been used quite successfully in the acute phase of burns in dogs by Par-

kins<sup>23</sup> and in human patients by Koop<sup>16</sup>. This form of therapy is certainly indicated in conjunction with whole blood in massive burns.

Other helpful measures in the treatment of shock are the use of oxygen, lowering of the head of the patient, and keeping the body temperature as normal as possible, either by heat or by cold. Demonstrable liver damage may be compensated for slightly by administration of dextrose. This is probably helpful in the maintenance of liver functions, among which the detoxifying function helps relieve shock by neutralization of the toxins proven to be present.

Prinzmetal<sup>25</sup> has shown with rats that there is a principle in liver extract which possesses the activity of combating shock due to burns. This antishock factor is present in some commercial extracts and is not identical with the antianemia principle.

*Prevention of infection and local treatment of burns* are to be considered as basic in the early care. Infection is always a serious complication of extensive deep burns and, according to the efficacy of treatment, a complication of lesser burns. The patient should be placed upon a sterile sheet as soon as practical and as few people as possible should handle the burned patient. Those who are in close contact with the burn should wear a surgical mask and cap and exercise all precautions against further contamination of the burned area. Further prophylaxis against infection is the institution of parenteral penicillin in adequate doses as previously mentioned. Penicillin ointment has also been used with success by Clarke<sup>5</sup>.

The local treatment in the form of any preparation should approach these basic requirements:

1. Relieve pain and present a comfortable dressing for the wound.
2. Be easy to apply and easy to remove.

3. Not produce further tissue damage.
4. Reduce or prevent increased capillary permeability.
5. Produce stimulation of tissue repair.
6. Prevent infection.

Harkins<sup>14</sup> in 1942 listed over eighty recognized methods of treatment for burns. I feel sure that any of these would do fairly well in the first three groups of burns according to the Converse and Robb-Smith<sup>8</sup> classification. Among the various forms of treatment, Collings<sup>5</sup> obtained good results with bismuth chlorophyll adrenal ointment even in third degree burns. Alrich and Lehman<sup>1</sup> along with Levenson and Lund<sup>18</sup> have shown conclusively that the application of plaster casts to second and third degree burns decreases toxin absorption and plasma loss, added advantages being an increase in comfort and minimal infection. Healing takes place very rapidly and this form of treatment is advocated for extremity burns under ideal conditions. Late application decidedly reduces the effectiveness of plaster casts in preventing plasma loss.

Pressure dressings are almost uniformly advocated as evidenced by Cameron<sup>3</sup>, Reese<sup>26</sup>, and Levenson<sup>21</sup>. Using animals, it has been shown by Cameron<sup>3</sup> that pressure leads to a reduction in edema at the burn, reduces fluid loss from blood thereby inhibiting somewhat hemoconcentration, reduces capillary permeability as shown by Glenn<sup>13</sup>, and reduces lymph flow from a burned area.

Preparations for local use are many in number but very few have generalized acceptance and fewer approach the criteria listed above. Sterile vaseline gauze is still widely supported. Another compound which is gaining wide acclaim is furacin, the organic structure being 5-nitro 2-furaldehyde semicarbazone. In vitro this compound has been used by Dodd<sup>10</sup> to inhibit the growth of staphylococci, streptococci, gono-

cocci, *Escherichia coli* and several other organisms. It is not too effective against *Pseudomonas pyocyaneus*. It is usually used in ointments but has been given orally and parenterally to mice. It protects 70 per cent of mice given 10 thousand M.L.D. of staphylococci. If a dose above the therapeutic range is given they die of infection. Krantz and Evans<sup>17</sup> gave abnormally huge doses to mice which produced a local erythema and cerebral stimulation. This compound has been used fairly extensively on infected burns at Grady Hospital with strikingly good results.

Tannic acid was formerly used in the local treatment of burns and good results were obtained by many. Wells<sup>28</sup> was one of the first to recognize its toxicity and since then its use has gradually diminished. Baker<sup>2</sup> at Duke University gave the results of a series of autopsies condemning the use of tannic acid as a direct factor in liver necrosis.

*The nutrition* of the extensively burned patient is of major importance since immediately after the burn a negative nitrogen balance is noted. Whole blood transfusions add greatly to maintenance of a positive nitrogen balance. Davidson<sup>9</sup> studied a series of burned patients with respect to their nitrogen metabolism and nutritional demands. The nutritional disturbances observed, and especially the increased demand for protein, were found to be directly related to the extent of third degree burn. High caloric, vitamin diets with as much as 400 grams of protein per day were necessary to maintain adequate nutrition in some patients with severe burns. Occasionally gavage and intravenous supplements were necessary. Also gastrointestinal intolerance infrequently developed.

In late stages of severe burns Levenson<sup>10</sup> frequently resorts to the administration of testosterone propionate 25 mg. intramuscularly every other day, as this decreases

urinary nitrogen loss.

Grafting of larger areas should be done only when the nutrition of the patient is adequate, infection minimal and under control. The chief cause of delay in early grafting in large burned areas is the prolonged presence of the slough. Connor<sup>7</sup> of Yale University has reduced the time required for the slough to separate by the use of pyruvic acid paste. By freeing the edges of the eschar and incising the dead tissue to provide greater margins, a chemical debridement can be accomplished. The area should be ready for grafting within a week or slightly longer.

#### BIBLIOGRAPHY

1. Alrich, E. M., and Lehman, E. P.: Studies on Burns I the Effect of Plaster Confinement Applied at Varying Intervals After Burning, *Surgery* 15:899-907 (June) 1944.
2. Baker, R. D.: The Internal Lesions in Burns with Special Reference to the Liver and Splenic Nodules, *Am. J. Path.* 21:717-739 (July) 1945.
3. Cameron, G. R.; Allen, J. W.; Coles, R. F. G., and Rutland, J. P.: A Study of the Effects of Applying Pressure to Experimental Thermal Burns, *J. Path. & Bact.* 57:37-46 (Jan.) 1945.
4. Christopher, Frederick: *A Textbook of Surgery*, Philadelphia, W. B. Saunders Company, p. 79, ed. 4.
5. Clark, A. M.; Colebrook, L.; Gibson, T., and Thomson, M. L.: Penicillin and Propamidine in Burns, *Lancet* 1:606-609 (May 15) 1943.
6. Collings, G. M.: Bismuth Chlorophyll and Adrenal Cortical Extract in the Local Treatment of Burns, *Am. J. Surg.* 70:58-63 (Oct.) 1945.
7. Connor, G. J., and Harvey, S. C.: The Pyruvic Acid Method in Deep Clinical Burns, *Ann. Surg.* 124:799-810 (Nov.) 1946.
8. Converse, J. M., and Robb-Smith, A. H. T.: The Healing of Surface Cutaneous Wounds: Its Analogy with the Healing of Superficial Burns, *Ann. Surg.* 120:873-886 (Dec.) 1944.
9. Davidson, C. S.; Lund, C. C., and Taylor, F. H. L.: The Nutrition of Patients with Thermal Burns, *Surg., Gynec. & Obst.* 80:449-469 (May) 1945.
10. Dodd, M. C.; Hartmann, F. W., and Ward, W. C.: The Local Application of Nitrofurans Compounds with Special Reference to Use on Wounds, *Surg., Gynec. & Obst.* 83:73-82 (July) 1946.
11. Finland, M.; Davidson, C. S., and Levenson, S. M.: Clinical and Therapeutic Aspects of the Conflagration Injuries to the Respiratory Tract Sustained by Victims of the Coconut Grove Disaster, *Medicine* 25:215-283 (Sept.) 1946.
12. Fox, C. L., and Keston, A. S.: The Mechanism of Shock from Burns and Trauma Traced with Radosodium, *Surg., Gynec. & Obst.* 80:561-567 (June) 1945.
13. Glenn, W. W. L.; Gilbert, H. H., and Drinker, C. K.: The Treatment of Burns by the Closed-Plaster Method, with Certain Physiological Considerations Implicit in the Success of this Technique, *J. Clin. Investigation* 22:609-625 (July) 1943.
14. Harkins, H. N.: The Local Treatment of Burns, *Clinics* 1:6-26 (June) 1942.
15. Harkins, H. N.; Cope, O.; Evans, E. I.; Phillips, R. A., and Richards, O. W., Jr.: The Fluid and Nutritional Therapy of Burns, *J. A. M. A.* 128:475-479 (June 16) 1925.
16. Koop, C. E.: The Use of Specially Prepared Gelatin Solution as a Plasma Substitute, *S. Clin. North America* 24:1300-1315 (Dec.) 1944.
17. Krantz, J. C., Jr., and Evans, W. E., Jr.: A Contribution to the Pharmacology of 5-Nitro-2-Furaldehyde Semicarbazone, *J. Pharmacol. & Exper. Therap.* 85:324-331 (Dec.) 1945.
18. Levenson, S. M., and Lund, C. C.: The Treatment of Burns of the Extremities, *J. A. M. A.* 123:272-277 (Oct.) 1943.
19. Levenson, S. M.; Green, R. W., and Lund, C. C.: An Outline for the Treatment of Severe Burns, *New England J. Med.* 235:76-79 (July) 1946.
20. Lund, C. C., and Browder, N. C.: Estimation of

Areas of Burns, *Surg., Gynec. & Obst.* 79:352-358 (Oct.) 1944.

21. Lund, C. C.; Green, R. W.; Taylor, F. H. L., and Levenson, S. M.: Burns: Collective Review, *Surg., Gynec. & Obst.* 82:443-478 (June) 1946.

22. Moore, F. O.; Peacock, W. C.; Blakely, E., and Cope, O.: The Anemia of Thermal Burns, *Ann. Surg.* 124:811-839 (Nov.) 1946.

23. Parkins, W. M.; Koop, C. E.; Reigel, C.; Vars, H. M., and Lockwood, J. S.: Gelatin as a Plasma Substitute: with Particular Reference to Experimental Hemorrhage and Burn Shock, *Ann. Surg.* 118:193-214 (Aug.) 1943.

24. Prinzmetal, M.; Bergman, H. C., and Hechter, O.: The Demonstration of Two Types of Burn Shock, *Surgery* 16:906-913 (Dec.) 1944.

25. Prinzmetal, M.; Hechter, O.; Margoles, C., and Feigen, G.: A Principle from Liver Effective Against Shock Due to Burns, *J. A. M. A.* 122:720 (Nov.) 1943.

26. Reese, E. C.: The Local Treatment of Burns with Pressure Dressings and Films Containing Sulfonamide, *Am. J. Surg.* 67:524-529 (March) 1945.

27. Shen, S. C.; Ham, T. H., and Fleming, E. M.: Studies on the Destruction of Red Blood Cells: III Mechanism and Complications of Hemoglobinuria in Patients with Thermal Burns: Spherocytosis and Increased Osmotic Fragility of Red Blood Cells, *New England J. Med.* 229:701-713 (Nov.) 1943.

28. Wells, D. B.; Humphrey, H. D., and Coll, J. J.: The Relation of Tannic Acid to the Liver Necrosis Occurring in Burns, *New England J. Med.* 226:629-636 (April) 1942.

## THE DIAGNOSIS AND TREATMENT OF BREAST CANCER

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Approximately 2 per cent of all women die with cancer of the breast.<sup>1</sup> Seventeen hundred of the 2000 cases of cancer which are diagnosed per million people die as a result of their malignancy. One fifth of these deaths are caused by cancer of the breast; and one fourth of all cancer in women is located in the mammary gland.<sup>2</sup> Any condition which is so frequent and takes such a toll of human life demands the best efforts of the medical profession in its diagnosis and treatment.

In untreated cases of cancer of the breast, 40 per cent of the women live three years, 20 per cent live five years, and 5 per cent live ten years after the onset of symptoms.<sup>3</sup> The over-all five-year survival of treated and untreated patients as a group is not much over 20 per cent. However, it must be remembered that there is a great deal of difference in the untreated case which survives five years and the treated case.

The crux of the handling of cancer of the

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breast is *early diagnosis* and *prompt treatment*. There is a deplorable delay in discovering and treating mammary carcinoma. First, women usually do not notice tumors in the breast tissue until they are of considerable size. Second, there is an average period of 8.7 months from the time of diagnosis by a doctor until treatment is instituted.<sup>4</sup> Seventy-five to 90 per cent of the patients with cancer of the breast have adhesions to muscles, or skin, or have glandular or distant metastases when first seen by a doctor.<sup>5</sup> This situation can be helped if women are encouraged to examine their breasts themselves and to have periodic health examinations. In addition, the education of doctors in the importance of early diagnosis and immediate treatment would probably cut the over-all mortality to 50 per cent.

*Any tumor of the breast should be considered malignant unless proven otherwise.* The only way to prove whether a mass is benign or malignant is by excision and histologic study. After the characteristic clinical findings of malignancy are present the condition is already advanced. Although some men aspirate breast tumors for the purpose of determining malignancy, this is generally not advisable. Excision in the operating room and immediate histologic study of a frozen section are preferable. Then, if the tumor is malignant, radical amputation of the breast should be performed. If the tumor is benign, the incision is closed.

Despite the fact that it is desirable to discover cancer of the breast before its clinical manifestations are present, such an ideal has not been reached and doctors continue to see the more advanced cases. Therefore, it is well to review these characteristics and the method of examination.

Most breast cancer starts from a focal point, which is thought to be in the lining cells of one of the lactiferous ducts. Stout<sup>4</sup>

has concisely given the mechanism of spreading which occurs in one or more of four ways: 1. Direct invasion. This process is accompanied by a fibrous tissue reaction resulting in a pulling upon the skin or pectoral sheath or both. The pull on the skin causes dimpling or axial deviation of the nipple. Pull on the pectoral sheath causes limitation in the mobility of the mass. Later, as the process continues, there is actual invasion of the skin and muscle by the malignant growth.

2. Spread along the *duct system* without enough thickening to feel. When this condition exists and causes superficial erosion of the skin at the nipple, it is known as Paget's disease of the nipple. *There is always underlying cancer of the breast in cases of Paget's disease.* It is significant that only 0.6 of 1 per cent of women with intraductal cancer have bleeding from the nipple.

3. By *lymphatics* to the axillary, mediastinal, or supraclavicular nodes. There may be retrograde spread toward the skin, blocking the skin lymphatics and producing orange skin or pigskin edema which appears caudad to the tumor. This is in contrast to edema resulting from inflammation which appears directly over the tumor.

4. Spread by the *blood stream*. Metastases by this route are prone to show up in the lungs, bones and liver.<sup>4</sup>

Examination should be performed with the patient stripped to the waist. The patient should sit with her shoulders level and her hands in her lap. The presence or absence of elevation, axial deviation of the nipple, and dimpling of the skin should be observed. These features, if present, are accentuated when the patient raises her arms. The patient should then lean forward with her hands on a chair to keep her from falling. The affected breast will not hang as freely as the normal one. Then with the patient on her back and slightly rotated to

the side opposite the affected breast and with her upper arm raised, the breast should be palpated without squeezing.

To determine whether or not the tumor is fixed to the muscle, it is moved from side-to-side while the pectoral muscles are at rest. Then with the patient pressing her hand to her hip on the affected side, the tumor is again moved from side-to-side. If there is attachment, movement will be limited. This does not occur in chronic cystic disease or benign tumors.<sup>4</sup>

In searching for distant metastases one should ask about backache or pain in the back and legs. He should also question the patient regarding recent cough or chest pain. It is important to palpate the axilla and supraclavicular regions on the opposite as well as the affected side. And finally, x-ray films of the bones and chest should be made.<sup>6</sup>

Having made the diagnosis of cancer of the breast, what should be the method of treatment? It is now practically unanimously agreed that radical mastectomy with careful resection of the axillary lymphatics is the essential treatment. However, it has been found that there are certain conditions which make the case inoperable. Haagensen and Stout have studied 1040 cases and state that women of all age groups who are in good enough condition to risk major surgery should have radical surgery except:

1. Cancer during pregnancy or lactation.
2. Extensive edema of the skin.
3. Satellite nodes of skin present over the breast.
4. Intercostal or parasternal tumor nodules present.
5. Edema of the arm.
6. Supraclavicular metastases.
7. Cancer of the inflammatory type.
8. Distant metastases present.
9. Two or more of the following present:
  - a. Ulceration of the skin.
  - b. Limited edema of the skin.
  - c. Fixation of the chest wall.
  - d. Axillary nodes larger than 2.5 cm. proven by biopsy.
  - e. Fixation of axillary nodes proven by biopsy.

These observers found that patients with locally advanced cancer which would fall in the inoperable class died ten months

earlier following radical mastectomy than if left alone. However, simple mastectomy in some of these cases was found to be helpful.<sup>7</sup>

The doctor should be able to give the family of the patient some idea as to the prognosis. Such a task is at best inaccurate but can be accomplished roughly by classifying cancer of the breast according to clinical advancement. McWhirter reported 1879 cases of breast cancer in the *Edinburgh Medical Journal* and divided his cases into four stages:<sup>2</sup>

Stage I—30 per cent of cases—growth limited to the breast.

Stage II—17 per cent of cases—growth in the breast plus mobile glands in the axilla.

Stage III—20 per cent of cases—fixation to the pectorals; extensive skin involvement; glands not fixed in the axilla.

Stage IV—21 per cent of cases—

- a. Fixation or matting of axillary glands.
- b. Complete fixation of the tumor to the chest wall.
- c. Secondaries in the supraclavicular glands.
- d. Secondaries in the skin wide of the tumor.
- e. Secondaries in the opposite breast.
- f. Distant secondaries, e.g., bone, liver, lung.

Recurrent 11 per cent.

Unstayed 1 per cent.

Using this classification, McWhirter has given the results of a comparative study in which radical mastectomy was performed alone in one group of patients, and radical mastectomy plus post-operative irradiation for the remaining patients.

Table I. Number of patients symptom-free.  
Surgery

	1 year	2 years	3 years
Stage I	75	66	54
Stage II	62	42	28
Stage III	47	29	21
Surgery plus post-operative radiation			
	1 year	2 years	3 years
Stage I	89	78	76
Stage II	83	66	60
Stage III	85	54	44

Histologic study of the axillary nodes was made and it was found that in cases with metastases to the axilla, post-operative irradiation gave almost twice as high a survival rate.

These figures give one a basis for stating a prognosis and at the same indicate the definite value of post-operative irradiation. It is interesting to note that the three-year survival figures in this series were almost

identical with the five-year survival rate:

Table 2. *Percentage of Patients Symptom-Free.*

	No. of cases	3 years	5 years
Stage I	247	54 per cent	52 per cent
Stage II	136	34 per cent	34 per cent
Stage III	183	20 per cent	20 per cent
	566	33 per cent	37 per cent

Fractional irradiation without surgery will not bring about complete sterilization of cancer of the breast and metastatic axillary nodes. Therefore, the only indications for irradiation without surgery are:

- As a palliative measure in inoperable cancer.
- Operable cancer for which operation is refused.
- Operable cancer in which the physical condition of the patient contraindicates surgery.<sup>8</sup>

Irradiation of carcinoma of the breast will cause definite reduction in the size of the tumor and pronounced regressive changes. The question of preoperative irradiation, however, is still unsettled.<sup>11</sup> Most radiologists believe that the patient should receive seven to fourteen days of radiation treatment fourteen days before operation to lessen the incidence of skin recurrence along the incision; and to devitalize the tumor cells. But many surgeons feel that this treatment is of little value and that the patient may refuse surgery after the tumor shrinks following x-ray therapy. Controlled studies evaluating pre-operative irradiation are not entirely convincing.

In advanced carcinoma of the breast with bone metastases, which are classed as inoperable, castration has been found worthwhile. Dresser treated 59 such cases and found that one third of his cases treated before the onset of the physiologic menopause showed regression of the bone lesions and re-ossification took place in some cases.<sup>9</sup> Pain relief occurred in 70 per cent of the cases treated before the menopause, and in 50 per cent of the cases treated after the menopause. Local recurrences and visceral metastases showed little response to castration. The prophylactic use of roentgen castration in women before the menopause has been of little or no value in preventing the

development of skeletal metastases. Surgical and x-ray castration yield the same result.<sup>10</sup> The same results can be partially achieved by the administration of testosterone propionate, but castration is more effective.

Irradiation to bone metastases gives relief in 70 per cent of the cases and may prevent pathologic fractures. Lung metastases also are benefited by x-ray therapy. However, nothing is gained by irradiation of liver metastases.<sup>4</sup> Local recurrences after mastectomy are treated by intensive low-filtered x-ray therapy.

In summary, it seems apparent that the early diagnosis of breast cancer followed by prompt treatment will result in a higher five-year survival rate. The treatment consists of radical mastectomy followed by post-operative irradiation. Pre-operative irradiation may be of some value in certain cases. Inoperable cases should be treated by x-ray and in some cases with additional simple mastectomy. One third of the cases with bony metastases are helped by castration which is most conveniently performed by irradiation. Metastases to bone and lungs respond well to x-ray therapy, but liver metastases are not affected.

#### BIBLIOGRAPHY

1. Spackman, J. G., and Hynes, J. F.: Surgery and Irradiation in the Treatment of Cancer of the Breast, *Am. J. Roentgenol.* 39:407-418 (March) 1938.
2. McWhirter, R.: The Value of Postoperative Radiotherapy in Cancer of the Breast, *Edinburgh M. J.* 50:193-207 (April) 1943.
3. Nathanson, I. L., and Welch, M. A.: Life Expectancy and Incidence of Malignant Disease; Carcinoma of Breast, *Am. J. Cancer*, 28:40-53 (Sept.) 1936.
4. Stout, A. P.: Diagnosis and Treatment of Cancer of the Breast, *J. M. A. Georgia* 32:1-4 (Jan.) 1943.
5. Lynham, J. E. A.: Pre and Postoperative Treatment of Cancer of the Breast by Radiation, *Brit. J. Radiol.* 4:534-560 (Nov.) 1931.
6. Giles, R. G.: Irradiation in Cancer of the Breast, *Texas State J. Med.* 40:585-590 (March) 1945.
7. Haagensen, C. D., and Stout, A. P.: Carcinoma of the Breast, *Ann. Surg.* 118:859-870 and 1032-1050.
8. Dann, D. S., and Koritschoner, R.: Preoperative Roentgen Therapy of Breast Carcinoma: Analysis of Histological Reaction and Roentgen Technic, *Radiology* 41:213-224 (Sept.) 1943.
9. Dresser, R.: Effect of Ovarian Irradiation on Metastases to Bones from Cancer of the Breast, *Am. J. Roentgenol.* 35:384-388 (March) 1936.
10. Adair, F. E.; Trevas, N.; Farrow, J. H., and Scharnagel, I. M.: Clinical Effects of Surgical and X-ray Castration in Mammary Cancer, *J. A. M. A.* 128:161-167.
11. Gratzek, F. R., and Stenstrom, K. W.: Roentgen Therapy of Mammary Carcinoma: Survival Study Based on 731 Cases, *Radiology* 44:44-57.



**THE JOURNAL**

OF THE

MEDICAL ASSOCIATION OF GEORGIA

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JULY, 1947

**A WIDER HORIZON FOR THE  
GENERAL PRACTITIONER**

One of the laments most frequently voiced by the public and echoed, when it seems judicious to do so, by the medical profession, is *What is to become of the general practitioner*. Well, what is?

We are all familiar with the complaints about the undue rise of specialists, about the lengths to which specialism has been allowed to progress—or, should we say, to which the practice of medicine has been allowed to slump?

If parts of this editorial seem faintly personal we are sorry, but we do not apologize, because personal experience, honestly related, is the only basis for true history from which pertinent conclusions may be drawn.

In the first place, what is a hospital? The general practitioner would probably reply that it was an institution he couldn't get his patients into. We think his reply would be fairly correct, and propose to examine the reasons why this is so.

Thirty-five years ago the hospital was an institution with a big name, staffed by the professors in our medical schools, in which internships under professors of the greatest reputation were eagerly sought by such medical students as could afford to take them. Many of us could not.

For the fortunate ones who could, the hospital offered ample clinical material where the art of caring for the sick was taught by the most experienced teachers. Neither the instructors nor the pupils were paid. Both basked in an atmosphere of altruism that was wonderful—if you could

afford it. At the end of two years interns would emerge from the hospital with a considerable reputation; they had succeeded not only in getting into the institution but in getting out of it. Many of them then coasted into success upon the coat-tails of their preceptors. They were known to an awestruck circle of contemporaries, not only as graduates of a certain hospital, but also as "the best surgical assistant Dr. Blank had had in years." Thus they frequently were introduced into fashionable practice and were so well rewarded financially that when their predecessors died they were able to step into their shoes. It was an excellent arrangement—for a few. And, let us emphasize again, for the few who could afford it.

In the meantime, what happened to those who could not? They went into general practice. Their patients were not as a rule anxious to go to hospitals and preferred to be cared for at home. Under such conditions the general practitioner did fairly well. When a patient became obviously desperately ill, he would be sent to the hospital, there to be operated on by a brilliant classmate who had a hospital appointment. Sometimes the brilliant classmate would be so touched by the shabby appearance of his less fortunate brother, who had referred the case to him, that he would share with him a portion of the substantial fee received from the patient. Sometimes the less fortunate brother would spread the tale of the charitably-minded surgeon and other general practitioners would refer cases to him in the hope of encountering similar financial justice. Thus arose the heinous practice now slightly referred to as "fee-splitting." We do think it a heinous practice, because it results in patients being referred not to the best, but to the most, shall we say, generous surgeon. But we think it only fair to point out the genesis of the custom.

Then came the advent of the so-called "teaching hospitals," staffed by cloistered graduates who often never had engaged in the private practice of medicine. After their internships they had stayed on and on as residents, and after they had become sufficiently expert were frequently drafted by other institutions to become full-time professors of surgery or medicine. As scientists they are wonderful, but they have small comprehension of, or sympathy with, the problems of the general practitioner.

And during this time, the public has become more and more hospital conscious. It wants to go to the hospital for the mildest stomach ache or sore throat. And with the spread of voluntary hospital insurance it can afford to do so.

Naturally the Blue Cross is anxious—for its own sake—that its clients patronize only the hospitals with the best staffs, in which a patient's stay is likely to be as brief as possible.

Trustees of voluntary hospitals will tell you, with tears in their eyes, that as trustees of charitable funds they must assure the spending of those funds for providing the best closed staffs possible. That sounds perfectly reasonable until you examine more closely and find the number of voluntary hospitals that allow themselves to be victimized by admitting compensation cases at rates less than the hospitals pay for the care of charity cases, cases for whose care they were originally founded.<sup>1</sup> One would think that worldly-minded trustees would not allow themselves to be so bamboozled either by state compensation boards or by insurance companies. Perhaps this is slightly beside the point, but it all goes to show how much farther and farther away the general practitioner is being pushed from the best facilities for, and contact with, the latest developments of scientific medicine.

It is always easier to point out the defects of a system than it is to propose a remedy. Some of our municipal hospitals are now staffed by members of the faculties of various universities, thus assuring the indigent the same degree of skillful care as that available to the rich who can afford to pay for it. That sounds well on the face of it, until we see that it is more and more narrowing the field to the general practitioner.

Suppose that the general practitioner were allowed to take his patient under voluntary hospital insurance to a municipal hospital. Suppose that he were kept in charge of the patient from the beginning of his illness to the end. We think there would be a considerable resurgence of that spirit which resolves to shoulder personal responsibility and see the patient through. We are confident that there are still enough generous practitioners of medicine of the highest reputation who would be willing to help out their less fortunate colleagues in the matter of hospital appointments, with problems that to them seem insoluble.

Suppose that under such a system the patient gets well? The father says "I never thought so much of Dr. Smith. I grew up with him and we live on the same block. But when my kid got polio Smith was the only man I could get and he took care of him. He took him to the Municipal Hospital. He saw him every day. He seemed to be doing all right, but Smith wasn't quite satisfied and called in Dr. Jones. He's the greatest authority on polio in these parts. I don't know whether my kid's going to get completely well, but I do know that he's had the best of care and for money that I could afford to pay, and I've paid it. No matter what happens in my family from now on, Smith's the man for me."

Dr. Jones says "I never heard of that man Smith before. But he called me in consultation to see a case of polio he had in the hospital and he'd done everything all right.

<sup>1</sup> New England J. Med. 236:491 (March 27) 1947.

There was only one thing I could suggest and if I hadn't been there I guess he would have thought of it himself. I didn't get much of a fee, but I got something, and under the old system I wouldn't have been paid a cent."

Dr. Smith says "I got called in on a case of polio the other night. I wasn't sure at first what the trouble was, but the next day I got the kid into the Municipal Hospital. The third day I called in Dr. Jones. You know he's got a hell of a reputation, but he wasn't a bit the kind of stuffed shirt I thought he'd be.

"His fee was only ten dollars, but he said that in the old days he would have had to see the kid anyway and wouldn't have been paid anything. It was all right with him. And he's all right with me."

And so what have you? Three satisfied people. A considerable cementing of the bonds that should be holding the medical profession together. Solidarity instead of disagreement. Sickness paid for without hardship.

It may sound like a dream, but it is one that the medical profession, hospital trustees, municipal governments, and the general public would do well to make come true.—*New York State Journal of Medicine*, July 1, 1947.

### EARLY MARRIAGE

A baby buffalo has to be born with legs strong enough to run as fast as its mother, in order to escape attacks by wolves and other predatory animals. A baby boy or girl is born weak and unprepared for survival by its own efforts. It requires a long period of care, training, and education. It must have a comfortable, secure environment in order to develop its full possibilities.

The demands of modern life make it difficult for a young person to become ade-

quately self-supporting in 18 years, or upon reaching adulthood. Economic conditions prevent the average young man from being financially able to adequately support a family. Nevertheless, in this complex age if young people are to be happy and understand each other, marriage should not be delayed too long.

In this age as in the past, a majority of the marriages should come during early adult life. They should be fostered and, if necessary, financed by established adults. The greatest privilege given to man is to share with woman in the foundation of a home and the creation of a human being. If the young adult is financially unprepared for this undertaking, it is a wise parent who offers assistance.

Thousands of young married people are preparing themselves in colleges throughout the State and working together to establish a home. By their efforts, they show their desire for an appreciation of a comfortable environment, the kind under which children thrive best. By their industry, they show they are likely to make and maintain an enduring home. They need encouragement and support in their undertaking.—*Georgia's Health*, June, 1947.

### FEE SCHEDULE FOR WORKMEN'S COMPENSATION CASES

Published in this number of THE JOURNAL is the revised schedule of fees for workmen's compensation cases for Georgia. This will be used as a guide for arriving at minimum fees for medical services to such cases. Each member of the Association should therefore file this information for reference if and when he or she needs to know about workmen's compensation medical fees.

It should be remembered that almost a decade has passed since the first minimum fee schedule was published in these columns. That fee schedule has been out of date for some years, due to increased costs



for every kind of service. As a matter of fact, the new schedule does not reflect all of the changes that probably should be made, but the committee of the Council of the Association whose efforts were in this direction realized the limitations for all parties concerned in the so-called compensation cases. This committee and various advisers spent considerable time working on the revised schedule before submitting it to the House of Delegates of the Association. Finally, it was approved by the Association in general session at the recent Augusta meeting.

Again, please file it away for future reference.

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### A COUNTRY DOCTOR

*The heroic figure of the "country doctor" is a part of the American legend. The following, by J. K. Hutchings in the Towns County Herald, of tiny Hiawassee, Georgia, is reprinted in service to that tradition.*

Doctor J. F. Johnson, physician, statesman, banker, farmer and civic leader, was buried Wednesday, April 2nd, 1947.

He lived a long, useful, successful and happy life.

His life was such that he was satisfied with it.

His countenance in his old age was expressive of perfect satisfaction.

There was a teasing smile on his lips—twitching in one corner of his mouth, under a trimmed moustache, and his keen eyes twinkled with merriment.

He rode the narrow trails of the mountains, in his young days on horseback, in sleet and snow, in drenching rains, in howling winds and through black nights.

He made pain, misery, sickness and sorrow his enemies, and fought them with the courage, valor and skill of a plumed knight.

He treated diphtheria without antitoxin, fevers without injections, and pneumonia without penicillin.

His hospital was a lamp-lighted house on the side of a mountain, his laboratory

was sometimes a kitchen table.

He fought germs with kettles of hot water without the aid of a microscope.

He rode to the house of pain when sleet stung his face like bird shot and his feet froze in his stirrups, and the ice hung on the mane of his horse and on the fringes of his saddle blanket.

He held fluttering pulse and listened to the rapid beating of human hearts and looked into eyes that were wild with fear.

He listened to the labored breathing of the aged in coma, and the sharp fresh cry of newly-born babies.

He was physician, nurse, orderly, prophet, priest and friend.

He was amazingly strong.

Strong men have strong emotions.

His emotions reacted to the beauty and strength of his surroundings.

There were times when he rode the trails of the mountains with a song in his heart, when the sun warmed his body with soothing sweetness and gleamed in the silken mane of his horse. When the grey fox trod the leaves with velvet feet and the squirrel barked in the tops of chestnut trees. When the mountain trout rushed upstream like flashes of silver, and zephyr breezes swept up the valley.

There were times when the quiet of the magnificent mountain soothed him into dreamless sleep until he awoke to see the day breaking over Bell Mountain soft and sweet, like the blush on the face of a girl.

On his office door, covered now with a wreath of flowers, hangs a skeleton clock. The black hands point in ominous silence to one fifteen. Above the clock—these printed words—"Doctor out—will return at—".

He did not return to his office.

Once he had a dream about his mansion in heaven. He told that dream in the Masonic lodge with tears streaming down his face. It was real to him—that mansion; an angel talked with him in that dream and

told him that mansions were built in heaven from material sent up from this life here on earth.

And so it was—after a long life—weary with his journey—death drew her curtains softly and pined them with a star.

#### TUBERCULOSIS PATIENTS REACT WELL TO PURIFIED STREPTOMYCIN

Four New York doctors report that reactions to highly purified streptomycin on long-continued administration are sufficiently low to justify the use of the drug in the treatment of most forms of tuberculosis.

This investigation was conducted under the direction of the National Research Council Committee on Chemotherapeutics and Other Agents, by Drs. Robert F. Farrington, Harriet Hull-Smith, Paul A. Bunn and Walsh McDermott.

Writing in the June 21 issue of *The Journal of the American Medical Association*, the investigators point to four general types of toxic reactions to the drug among 16 tuberculous patients: histamine or allergic reaction in which poison is released by the tissues, characterized by flushing, headache and an abrupt fall in blood pressure; various forms of anaphylaxis or hypersensitivity to the drug; neurologic disturbance with occasional deafness, and kidney damage.

However, in only two of the 16 patients, treated for 120 days, was it necessary to interrupt the administration of the drug, and it was possible to resume treatment eventually in both of these patients.

"On the basis of the present investigation," write the physicians, "it appears that the toxicity of highly purified streptomycin is sufficiently low to justify its long-continued administration to patients with actively progressing tuberculosis and other comparably serious infections. Conversely, it appears that streptomycin should not be employed in the treatment of relatively benign infections, such as recently developed minimal tuberculosis or chronic brucellosis, until the question of possible late effects resulting from the use of the drug can be determined."

#### CIRRHOSIS OF LIVER NOT SYNONYMOUS WITH ALCOHOLISM, DOCTORS SAY

A serious disorder of the liver, known as cirrhosis, has been persistently identified as alcoholic in origin. Three Philadelphia doctors suggest in the interest of scientific accuracy "that all reference to any type of cirrhosis as 'alcoholic cirrhosis' be abandoned."

Despite the progress of medical science in recent years in the study of the origin of cirrhosis of the liver, "its cause and mode of development continue to remain part of the mysteries of medicine," according to Drs. Russell S. Boles, Robert S. Crew and William Dunbar, from the Medical and Pathological Departments of the Philadelphia General Hospital, writing in the June 21 issue of *The Journal of the American Medical Association*.

Portal cirrhosis, the type most frequently found in this country, is generally accepted as being synonymous with alcoholic cirrhosis, state the authors. In the portal area is a branch of the portal vein which drains the blood from the intestinal tract. When the portal vein becomes obstructed by degenerate cells which are replaced by scar tissue, increased pressure is necessary for forcing blood through the liver. This leads to disastrous conditions such as profuse bleeding, jaundice and swelling of the abdomen and later the legs.

The authors present an analysis of 3,637 postmortem examinations made between 1942 and 1946. In this

group, 142 cases of portal cirrhosis were found. It was possible to obtain an accurate history concerning the use of alcohol in 61 of the 142 cases. Fifty were alcoholics and 15 claimed total abstinence. In the remaining 78 cases there was either no record of indulgence in alcohol, or the history concerning its use was questionable.

"It is significant that in younger persons with cirrhosis, namely those under 40 years of age, nine of 13 admitted heavy drinking," the authors point out.

Alcoholism is thought to contribute to the production of cirrhosis of the liver because it is believed that the alcoholic never eats enough and therefore does not get the essential substances, or if he does take food he does not digest and absorb the needed factors.

On the other hand, the authors cite the theories of other investigators who believe that cirrhosis of the liver may be caused by: intestinal bacteria following intestinal irritation from alcohol, acid fermentation or some other agent; allergic reaction resulting in shock, the result of repeated injection of egg white or other protein and bacterial infections combined with poisons that are toxic to the liver.

#### SEE CUT IN DEATH RATE FROM DISEASED CORONARY VESSELS WITH DICUMAROL

The treatment of diseased coronary vessels with Dicumarol, a drug which delays clotting of the blood, in addition to the established methods of control, represents the first step in the form of a positive approach to the problem, states a St. Louis physician in the June 7 issue of *The Journal of the American Medical Association*.

O. P. J. Falk, M.D., Assistant Professor of Clinical Medicine, St. Louis University School of Medicine, believes that the drug may combat the tendency for extension of the thrombus or clot attached to the diseased vein wall and may reduce the tendency toward phlebothrombosis, which is potentially fatal because of the danger that the clot will become detached and be carried by the blood stream to the heart where it may act as a plug and cause death.

Dicumarol is prepared from spoiled sweet clover. The drug was discovered when hemorrhagic disease, studied in cattle, was traced to the eating of improperly cured hay or silage from the common sweet clovers.

Patients must be hospitalized before Dicumarol treatment is begun. However, the author points out, treatment with this drug, which is given by mouth, should not be attempted unless the laboratory is prepared to make daily tests of the clotting ability of the blood of each patient.

The author does not advise Dicumarol for patients who bleed easily, have advanced liver disease, a history of ulcer or recent hemorrhages of the gastrointestinal tract and kidney damage.

"The American Heart Association is setting up a committee under the chairmanship of Dr. Irving S. Wright," according to Dr. Falk, "composed of the heads of large medical services who will be asked to use Dicumarol in alternate cases in an attempt to evaluate its influence on mortality. Wright has treated 80 patients, in whom the anticipated mortality appears to have been reduced at least a third by comparison with previous series on conventional therapy."

*The JOURNAL would like to record the scientific work of Georgia physicians. It earnestly requests, therefore, that each physician in the State who publishes a contribution in some other medical periodical submit an abstract of the article for these columns.*



## GEORGIA DEPARTMENT OF PUBLIC HEALTH

### THE TREATMENT OF SYPHILIS WITH PENICILLIN IN OIL-BEESWAX

ALBERT HEYMAN, M. D.  
*Atlanta*

Although penicillin in aqueous solution has been found to be effective in the treatment of syphilis, this form of therapy requires hospitalization. Hospital care is often very difficult to obtain and many patients, particularly those with early infections, wish to avoid hospitalization for either social or financial reasons. The need for a method of treating syphilis as an office procedure has become apparent. The delayed absorption of penicillin in peanut oil-beeswax (P.O.B.) permits the use of this preparation on an ambulatory basis in some stages of syphilis. It is the purpose of this report to outline the indications and dosage of P.O.B. in the treatment of syphilis and to discuss the reactions which may occur with this form of therapy.

Following the injection of 600,000 units (2 cc.) of P.O.B., an effective spirocheticidal level can be obtained for at least 20 to 24 hours. Although daily injections are usually advised, brief (24-hour) lapses do not appear to detract from the therapeutic efficacy in syphilotherapy, and injections of P.O.B. may be effective when given three times a week.

The use of P.O.B. has several practical disadvantages. The mixture must be heated to facilitate injection, and clogging of needles and syringes often occurs when moisture is present. Patients frequently complain of soreness and tender nodules at the site of injection. Approximately 5 per cent of patients develop urticaria following P.O.B. therapy. This reaction, however, responds to the administration of antihistamine drugs, such as benadryl (50 mg. three times a day). Other, but less common, reactions to P.O.B. have also been observed. These include isolated urticarial lesions at the site of inoculation, eosinophilia and pulmonary emboli. In addition, Herxheimer reactions with P.O.B. are often no less severe than with aqueous penicillin, and caution should be observed in the treatment of patients with syphilis of the larynx, eye and cardiovascular system.

#### *Early Syphilis*

In primary and secondary syphilis the use of daily injections of 600,000 units of P.O.B. for 10 days is as effective as aqueous penicillin and will produce satisfactory results in about 75 per cent of the patients. Although it was thought

at first that a few injections of arsenicals and bismuth would greatly increase the effectiveness of penicillin, recent studies<sup>1</sup> have shown that the relapse rate is not decreased by this additional therapy. To reduce the relapse rate, P.O.B. therapy should be followed by at least 20 to 30 injections of 60 mg. of mapharsen and 10 to 15 injections of 0.2 Gm. of bismuth subsalicylate. This additional therapy probably increases the effectiveness of P.O.B. to the maximum.

All patients with early syphilis should be observed for a minimum period of one year after completion of treatment and should not be dismissed until serologic tests and spinal fluid studies become negative and remain negative during this period of time. The response of the patient to P.O.B. should be determined by quantitative serologic tests obtained at monthly intervals. As a rule, the serologic test does not become negative for at least four to six months following treatment. A continuous fall in serologic titer is indicative of good results, but patients should be re-treated if the titer rises sharply for at least two or more dilutions. Recurrence of syphilitic lesions, pregnancy or a persistently positive test, greater than 3 dilutions one year after treatment, are also indications for re-treatment.

#### *Late Latent Syphilis*

Although patients with late latent syphilis (those with syphilis of more than five years' duration, a negative spinal fluid and no manifestation of the disease other than a positive serologic test) are commonly seen in private practice, there is no information available regarding the effectiveness of either aqueous solutions of penicillin or P.O.B. therapy in this stage of the disease. The serologic test may not become negative in these patients following penicillin treatment, and sufficient time has not yet elapsed to determine if these patients develop late sequelae. Since the majority of patients with late latent syphilis have an excellent prognosis, even without treatment, it is expected that P.O.B. therapy will be a satisfactory form of treatment. Doses similar to those employed for early syphilis may be used, but serologic reversal should not be expected. Clinical and laboratory observation of these patients should, however, be made at regular intervals for several years following treatment.

#### *Prenatal and Congenital Syphilis*

Penicillin in aqueous solution has been shown to be highly effective in the prevention of congenital syphilis and more than 90 per cent of the mothers treated with 2 to 4 million units of penicillin have delivered non-syphilitic children. The use of P.O.B. in a small series of

From the Clinic for Genitoinfectious Diseases, Emory University School of Medicine, and the Georgia Department of Public Health.



cases, however, has failed to produce similar results, and approximately 40 per cent of the patients so treated had syphilitic children, stillbirths or other disasters.<sup>2</sup> Most of the patients with poor results following P.O.B. therapy were treated late in pregnancy, and it is believed that the height of the penicillin level obtained with P.O.B. is not sufficient to penetrate the placenta and effect a cure of the infected fetus. The use of P.O.B. alone, therefore, is not indicated in pregnancy complicated by syphilis, and aqueous penicillin remains the drug of choice in these patients.

If aqueous penicillin cannot be given, P.O.B. may be employed along with arsenical therapy. A total dose of 6 million units of P.O.B. should be given, along with 60 mg. of mapharsen twice weekly throughout the entire course of pregnancy. All children born of mothers treated for syphilis should be followed with serologic tests for syphilis every four weeks until they are at least six months old.

Although the results in infants with congenital syphilis treated with penicillin have been satisfactory, there have been no studies using P.O.B. in these cases. These children often have overwhelming syphilitic infections, and the low blood levels obtained with P.O.B. may not be effective. Many of these infants are premature and malnourished at the onset of treatment and hospitalization is often advisable, for adequate nutrition and supportive care in these cases is extremely important. Aqueous penicillin therapy should be continued in infantile congenital syphilis, and P.O.B. should not be given until the results of further studies are available in regard to this problem.

#### *Neurosyphilis*

Although aqueous penicillin therapy has been demonstrated to be of considerable value in the treatment of some forms of syphilis of the central nervous system, the use of P.O.B. has not been evaluated. A total dose of 6 to 9 million units of P.O.B. may be effective in cases of asymptomatic neurosyphilis (those without signs or symptoms but with a positive spinal fluid), but this preparation should not be employed in most patients with symptoms of neurosyphilis. Patients with paresis or optic atrophy should never be treated with P.O.B. alone, but should be given fever therapy.

#### *Summary*

Penicillin in peanut oil-beeswax appears to be a valuable agent in the treatment of certain forms of syphilis. It is probably as effective as aqueous penicillin in early syphilis and in late latent infections. It should not be used in syphilis in pregnancy, congenital syphilis, or in symptomatic neurosyphilis. Although it may be used in patients with asymptomatic neurosyphilis, these cases must be carefully followed with spinal fluid examinations at frequent intervals following treatment.

#### BIBLIOGRAPHY

1. Merrell, M.: The Treatment of Early Syphilis with Penicillin. Presented at the Symposium, Recent Advances in the Investigation of Venereal Diseases, held in Washington, D. C., (April 17) 1947.
2. Ingraham, N. R., Jr., et al: Treatment of the Syphilitic Pregnant Woman with Penicillin in Oil Beeswax: A Comparison with Results Obtained Using Aqueous Sodium Penicillin. Presented at the Symposium, Recent Advances in the Investigation of Venereal Diseases, held in Washington, D. C., (April 17) 1947.

#### MARRIAGES SHOWED GREATER INCREASE IN 1946 THAN DIVORCES

There were more than 2,300,000 marriages and 620,000 divorces in the United States in 1946, according to preliminary estimates released recently by the National Office of Vital Statistics, U. S. Public Health Service, Federal Security Agency. These figures set an all time high.

Divorces did not increase as rapidly as did marriages in 1946. Divorces increased nearly 120,000, or about 24 per cent, over the 1945 estimate of 502,000. The estimated divorce rate per 1,000 of the population (including armed forces overseas) was 4.4 in 1946 compared with 3.6 in 1945.

Marriages increased about 680,000, or 42 per cent, over the 1945 total of nearly 1,620,000. The estimated marriage rate per 1,000 of the population (excluding armed forces overseas) stood at 16.4 in 1946 compared with 12.3 in 1945.

The greater increase of marriages is further shown by comparing the marriage-divorce ratio for each of the two years. In 1945, there were 31 divorces for every 100 marriages; in 1946 the ratio dropped to 27 divorces for every 100 marriages. The marriage-divorce ratio does not reflect the number of marriages in a given year which ended in divorces in the same year, and must be interpreted with caution. Further, the national estimates are subject to many qualifications and in general represent approximations.

#### LIBRARIES FOR VETERANS

Patients in Veterans Administration hospitals and homes borrowed an average of two books apiece from VA general libraries during March, F. R. Kerr, assistant administrator for VA Special Services, said.

Total circulation during the month reached 210,742 books, or more than one-quarter of the entire number of volumes on the general library shelves.

Most avid readers were patients in the VA tuberculosis hospital at San Fernando, Calif., who each read an average of a book every two and one-half days.

Libraries are maintained in all VA hospitals and homes for recreation of patients. In addition, technical medical libraries for VA medical personnel have been established in the hospitals and homes.

#### THE AMERICAN CONGRESS OF PHYSICAL MEDICINE

Will hold its twenty-fifth annual scientific and clinical session Sept. 2, 3, 4, 5 and 6 inclusive, at the Hotel Radisson, Minneapolis. Scientific and clinical sessions will be given the days of Sept. 3, 4, 5 and 6. All sessions will be open to members of the medical profession in good standing with the American Medical Association. In addition to the scientific sessions, the annual instruction courses will be held Sept. 2, 3, 4 and 5. These courses will be open to physicians and the therapists registered with the American Registry of Physical Therapy Technicians. For information concerning the convention and the instruction course, address the American Congress of Physical Medicine, 30 North Michigan Avenue, Chicago 2, Illinois.

# WOMAN'S AUXILIARY TO THE MEDICAL ASSOCIATION OF GEORGIA

## WOMAN'S AUXILIARY NEWS

### PRE-CONVENTION BOARD MEETING

EXCERPTS APRIL 22, 1947

The minutes of the Post-Convention Board meeting of 1946 were read and approved.

Mrs. Bruce Schaefer was elected chairman of the meeting.

After discussion a motion was passed that the Jane Todd Crawford chairmanship be discontinued.

Mrs. W. R. Dancy moved that the directory, convention minutes and resolutions be published together and a copy sent each member in Georgia. This was seconded by Mrs. John Elliott and passed.

After discussion a motion was passed that the Student Loan chairman handle those funds, relieving the treasurer.

A conference of state officers, district managers and county presidents will be held as a school of instruction at the summer Executive Board meeting.

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### TWENTY-SECOND ANNUAL CONVENTION EXCERPTS APRIL 23, 1947, (First Session)

The meeting was called to order by the president, Mrs. Bruce Schaefer.

After the invocation the welcome address was given by Mrs. W. J. Williams, incoming president of the Richmond County Auxiliary. Mrs. Shelley Davis responded.

A motion was passed that the program be adopted.

Officers were introduced by Mrs. Ralph Chaney, parliamentarian, a list of past presidents read, and the rules governing the convention.

A report from the advisory committee was given by Dr. Eustace A. Allen, chairman.

Dr. Ralph Chaney, president of the Medical Association, and Dr. Steve Kenyon, president-elect, gave inspiring addresses.

Minutes of the Pre-Convention Board meeting were read and approved.

Reports were given from districts and counties.

A report of registration was as follows: 139 registered, 1 president, 7 past presidents, 2 district managers, 13 delegates, 7 alternates, 12 officers and chairmen.

Minutes of the second session of 1946 were read.

### TWENTY-SECOND ANNUAL CONVENTION EXCERPTS APRIL 21, 1947 (Second Session)

The meeting was called to order by Mrs. Bruce Schaefer.

Mrs. Jesse D. Hamer, president of the National Auxiliary, and Mrs. Wiley R. Buffington, president of the Southern Auxiliary, addressed the group.

A memorial service to the late Mrs. W. L. Ballenger was given.

Interesting reports were given of last year's National Convention, the Southern, reports of officers, chairmen of committees, and the president gave her year's report.

Recommendations from the board were passed that the directory, convention minutes and resolutions be published together and sent to each Auxiliary in Georgia, that the treasurer be relieved of handling the Student Loan Fund and turn it over to the chairman, that the Jane Todd Crawford chairmanship be discontinued.

Mrs. Jesse Hamer installed the new officers after the report of the Nominating Committee.

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### TWENTY-SECOND ANNUAL POST-CONVENTION EXCERPTS, APRIL 24, 1947

Mrs. W. G. Elliott, president, called the meeting to order.

Delegates to the National Convention and to the Southern were appointed.

Chairmen of committees were announced by the president.

Mrs. Jesse Hamer presented information of the Bureau of Health.

Discussion of projects for the year followed.

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### IMPORTANT NOTICE

The Woman's Auxiliary to the Medical Association of Georgia will hold a School for Instruction, in conjunction with the joint meeting of the Executive Board and Advisory Committee, at the Academy of Medicine, Atlanta, August 5 and 6, 1947.

## A MINIMUM MEDICAL AND SURGICAL FEE SCHEDULE\*

Covering professional services to injured workmen who come under the provisions of the Georgia Workmen's Compensation Act and its Amendments.

Formulated by a Sub-Committee on Medical Economics of the Medical Association of Georgia, appointed by the President of the Association upon authority granted by the House of Delegates in session assembled at Macon, May 11, 1937, approved by the Committee on Medical Economics and revised and re-adopted by the Council of the Medical Association of Georgia in official session at Augusta, April 25, 1947.

This is a minimum fee schedule and is not to be construed as conflicting with existing or contemplated arrangements between doctors, insurance carriers and/or employers, where such arrangements meet with the approval of the Medical Association of Georgia or its Council.

Charges not enumerated herein are to be reasonable and are to be by arrangement and agreement.

### MISCELLANEOUS

FIRST AID: This includes strapping back, treatment of minor joint injuries, suturing of superficial wounds up to 5 stitches .....	\$ 5.00
More extensive wounds .....	10.00
Hospital or home visits, each .....	3.00
Night Visits, 8 P. M. to midnight .....	5.00
Midnight to 7:00 A.M. ....	10.00
Subsequent office visits .....	2.00
Office visits where serum, antitoxins, inoculations or intravenous therapy is given (plus cost of medicine) .....	3.00
Spinal puncture, including manometric reading .....	10.00
Physiotherapy .....	3.00
Urologic consultation .....	10.00
Each additional visit .....	3.00
Testimony before Industrial Relations Board .....	15.00
Testimony before Industrial Relations Board by a qualified disinterested expert .....	25.00
Examination and written report on injured where examination is made by other than attending surgeon .....	10.00
Calls involving over two miles travel, or out of town services, regular charge, plus fifty cents per mile, one way.	

### MEDICAL

Consultation with report .....	\$ 10.00
Additional visits .....	3.00
Neurologic examinations, complete with report .....	25.00
Additional visits .....	3.00
Urologic consultation .....	10.00
Additional visits .....	3.00
Electrocardiogram .....	10.00
Basal metabolism .....	10.00
Pneumothorax, initial .....	25.00
Each additional .....	5.00
Aspiration of chest .....	10.00
Each additional .....	5.00
Aspiration of abdomen .....	10.00
Each additional .....	5.00

### DISLOCATIONS

Shoulder .....	(after care extra) \$ 25.00
Elbow .....	" " " 25.00
Wrist .....	" " " 15.00
Hip .....	" " " 50.00
Knee .....	" " " 25.00
Ankle .....	" " " 15.00
Clavicle .....	" " " 15.00
Finger or Toe .....	" " " 5.00
Jaw .....	" " " 15.00
Ribs .....	" " " 10.00
Spine and Pelvis by Traction .....	" " " 50.00
Carpal Bones .....	" " " 25.00
Open reductions, twice the above charge (after care extra).	

### FRACTURES

Arm and forearm .....	(after care extra) \$ 35.00
Femur .....	" " " 50.00
Tibia .....	" " " 35.00
Fibula .....	" " " 25.00
Both bones, including Potts fracture. ....	" " " 50.00
Jaw .....	" " " 25.00
Wiring .....	" " " 50.00
Ribs .....	" " " 10.00
Patella .....	" " " 25.00
Pelvis .....	" " " 50.00
Metatarsals or Metacarpals .....	" " " 15.00
Fingers and Toes .....	" " " 10.00
Coccyx .....	" " " 10.00
Sacrum .....	" " " 25.00
Sternum .....	" " " 10.00
Spine .....	" " " 75.00
Lachrymal bone .....	" " " 5.00
Malar .....	" " " 25.00
Scapula .....	" " " 25.00
Clavicle .....	" " " 25.00
Nasal bone .....	" " " 10.00
Carpal .....	" " " 25.00
Tarsal .....	" " " 35.00
Compound fractures, 50 per cent in addition to usual charges.	

### FRACTURES, OPEN REDUCTIONS AND OSTEOTOMY WITH AFTER CARE

Finger or toe .....	\$ 50.00
Metacarpal or metatarsal .....	50.00
Humerus, tibia, ulna or radius .....	125.00
Femur .....	175.00
Os Calcis, simple. ....	(after care extra) 50.00
Os Calcis, requiring reduction .....	(after care extra) 100.00
Hip .....	200.00
Patella .....	100.00
Sternoclavicular joint .....	125.00

### OSTEOTOMY FOR CHRONIC OSTEOMYELITIS WITH SEQUESTRAE: OFFICE AND HOME CARE EXTRA

Femur (lower $\frac{1}{3}$ , radical) .....	\$75.00 to \$100.00
Femur (upper $\frac{1}{3}$ or lower $\frac{1}{2}$ ) .....	100.00
Fibula (upper or lower $\frac{1}{3}$ ) .....	40.00
Fibula (entire) .....	60.00
Foot .....	25.00 to 50.00
Hand .....	25.00 to 35.00
Hip, ilium, neck of femur .....	125.00
Humerus (lower or upper) .....	75.00
Humerus (entire) .....	100.00
Radius (upper) .....	60.00
Radius (lower $\frac{1}{2}$ ) .....	50.00
Radius (entire) .....	75.00
Tibia (lower end) .....	50.00
Tibia (upper end) .....	60.00
Tibia (entire shaft) .....	75.00
Ulna (upper $\frac{1}{2}$ or lower $\frac{1}{2}$ ) .....	50.00

\*All physicians of Georgia are requested to file this schedule of fees for future reference.



Ulna (entire)	60.00
Osteotomy of tibia for correction of deformity	100.00
Osteotomy of lower femur for correction of deformity	100.00
Osteotomy of upper femur for correction of deformity	125.00

## OPERATIONS, USUAL TYPE

Exploratory laparotomy, with after care	\$100.00
Herniorrhaphy, single, with after care	100.00
Herniorrhaphy, double, with after care	150.00
Heraia, strangulated with resection of bowel, with after care	150.00
Hernia, recurrent, with after care	125.00
Tendon sutures, first tendon (after care extra)	25.00
Each additional tendon	5.00
Removal of kidney, spleen, bladder or any abdominal viscera, with after care	150.00
Rupture of kidney with drainage only, with after care	100.00
Orchidectomy, with after care	50.00
Epididymectomy, with after care	50.00
Ruptured urethra, without after care	50.00
Ruptured viscus, with after care	150.00
Semi-lunar cartilage, knee, with after care	150.00
Bonegraft, with after care	\$100 to 150.00
Arthrodesis, with after care, fee by agreement.	
Laminectomy, with after care, fee by agreement.	
Excision bursa, prepatellar, olecranon, without after care	25.00
Nerve suturing, primary, single, without after care	50.00
Each additional, without after care	25.00
Nerve suturing, secondary, reasonable fee by agreement.	
Skull, requiring decompression, with after care	150.00
Skull, compound, including craniotomy, with after care	175.00

## AMPUTATIONS

Finger or Toe, without after care	\$ 25.00
Each additional finger or toe (without after care)	5.00
Arm or forearm, without after care	75.00
Hand, without after care	75.00
Shoulder, without after care	100.00
Leg or Foot, without after care	75.00
Thigh or hip, without after care	100.00

## MINOR SURGICAL PROCEDURES

Anesthetics, minor	\$ 5.00
Anesthetics, major	10.00
(Where Anesthetist furnishes gas for operation at home or surgeon's office, cost of gas to be added to fee or usual hospital schedule).	
Assistant's fee, minor	5.00
Assistant's fee, major	10.00
Cystoscopy, simple	10.00
Cystoscopy, with catheterization of ureters for x-ray	25.00
Abscess, incision and drainage, without after care	5.00
Foreign bodies, removed from wounds, without after care	\$5.00 to 10.00
Burns, severe, plus regular office, hospital or home visits	10.00 to 25.00
Transfusion, direct or indirect method	25.00
Skin grafts, for burns or other conditions, reasonable fees by agreement.	

## EYE, EAR, NOSE AND THROAT CONDITIONS

Ordinary removal of foreign body:	
(a) Attached to cornea or conjunctiva	\$ 5.00
(b) Simple embedded	7.50
Localization of foreign body inside the eye ball, when necessary, x-ray	25.00

Extraction of foreign body from inside the eye ball (anterior chamber) with or without magnet	50.00
Extraction of foreign body from inside the eye ball (posterior chamber) with or without magnet	75.00
Enucleation of eye ball, which must include implantation, including after care	100.00
Iridectomy, including after care	100.00
Complete ophthalmologic examination and report	10.00
Refraction, when authorized by the Commission	10.00
Office visits	3.00
Home visits	5.00
Hospital visits	3.00
Fractured nose, including after care	50.00
Deviated septum, including after care (submucous resection)	75.00
Ruptured ear drum, first visit	5.00
Additional visits	3.00
Mastoidectomy—one side, including after care	125.00
Mastoidectomy—bilateral, including after care	150.00
Laceration conjunctiva—sutures (after care extra)	10.00
Laceration of lids—sutures (after care extra)	10.00
Ectropion—by agreement.	
Secondary repair of orbit—reasonable fee by agreement.	
Traumatic cataract, single, including after care	100.00
Traumatic cataract, bilateral, including after care	200.00
Complete examination of ears for hearing	10.00
Bronchoscopy—removal foreign body	100.00
Tracheotomy, after care extra	50.00

## X-RAY EXAMINATIONS

Ankle	\$ 7.50
Ankle and foot	10.00
Arm, lower two-thirds	7.50
Arm and shoulder	10.00
Back (see spine and pelvis).	
Bladder (see urinary tract)	10.00
Chest (heart, lungs and great vessels):	
(a) Single plate or stereoscopic	10.00
(b) Fluoroscopic study—no additional charge if roentgenograms have been made	5.00
Fluoroscopic study alone	5.00
Clavicle (stereoscopic—2 views)	10.00
Colon (see gastro-intestinal)	20.00
Elbow	7.50
Ear (see mastoids).	
Eye (to determine presence of foreign body)	10.00
Localization	25.00
Facial bones	\$10.00 to 15.00
Femur (lower two thirds)	10.00 to 12.50
Femurs, both	15.00
Finger, two views on one plate	5.00
Foot	7.50
Forearm	7.50
Forearm, part including wrist joint	7.50
Forearm, part including elbow joint	7.50
Feet, one foot	7.50
Feet, both (2 feet)	12.50
Gallbladder	\$10.00 to 20.00
Gastro-intestinal tract with barium	25.00
Esophagus, alone	10.00
Stomach, alone	20.00
Colon, alone	20.00
Hands (one)	7.50
Hands (both)	10.00
Head	\$15.00 to 20.00
Hip Joint	12.50
Humerus, below shoulder	7.50
Jaw (upper)	10.00
Jaw (lower), one side	15.00
Jaw (lower), both sides	20.00
Kidney (see urinary tract)	10.00
Knee	10.00

Leg	7.50	Quantitative uric acid	2.00
Legs (both)	12.50	Quantitative ammonia	2.00
Mastoids	15.00	Quantitative chlorides	2.00
Nasal bones	10.00	Quantitative total nitrogen	2.00
Neck (see spine).		Above five tests	10.00
Pelvis	12.50	Phthalein	2.00
Pyelogram (see urinary tract)	15.00	Urobilin quantitative	3.00
Ribs	12.50	Tyrosin	3.00
Sacro-iliac joints	10.00	Mosenthal or other conc. test	5.00
Shoulder	10.00	Simple culture	5.00
Sinuses	10.00	Special culture	5.00
Spine, one section	15.00	Ureter specimens, urea, micro and cultures,	
Two sections	15.00	both sides	15.00
Entire spine	25.00	Tuberculosis—extra	3.00
Teeth (single plate)	3.00	Animal inoculation	10.00
Not over six	6.00		
Toes (single plate)	5.00		
Urinary Tract:			
Both kidneys, ureters and bladder	10.00		
Bladder	10.00		
Including pyelogram-cystogram	15.00		
Intravenous pyelogram	20.00		
Wrist	7.50		
Both wrists	10.00		
Therapy treatment: by arrangement and agreement.			
All x-ray charges are to be based on examinations for diagnosis, irrespective of the number of films required.			
Charges not enumerated above are to be handled by arrangement and agreement.			

## FEES FOR PATHOLOGY AND CLINICAL PATHOLOGY

<i>Blood</i>		<i>Frozen Section</i>	
Wassermann	\$ 5.00	In hospital, path. at operation	\$ 15.00
Wassermann, any modification	5.00	Outside	\$5.00 to 10.00
Precipitation, Kahn or others	5.00	Routine tissue	5.00
Any two of above	7.50		
Complement fixation G. C.	5.00		
Full blood count	7.50		
White count and differential	5.00		
Coagulation time	2.00		
Sedimentation test	3.00		
Fragility test	5.00		
Platelet count	2.00		
Full test—hemorrhagic diathesis	10.00		
Icteric index	2.00		
Special culture, blood	10.00		
Widal	3.00		
Simple culture	5.00		
Bilirubin Van den Bergh	3.00		
Malaria, plus red count	2.00		
Typing and grouping	7.00		
Cross agglutination tests	5.00		
Additional per person	2.00		
Urea nitrogen	3.00		
Non-protein nitrogen	2.00		
Uric acid	3.00		
Cholesterolin	5.00		
Creatinine	3.00		
Sugar	5.00		
CO <sub>2</sub>	5.00		
Any four tests of the above	10.00		
Calcium	7.00		
Magnesium	5.00		
Phosphorus	7.00		
Chlorides	3.00		
Any three of the above	12.00		
Lactic acid	3.00		
Hydrogen ion concentration	3.00		
Albumin-globulin ratio	10.00		
Friedman test	10.00		
<i>Urine</i>		<i>Miscellaneous Items</i>	
Routine, chemical qual. no micro.	2.00	Throat culture, diph., strep.	\$ 5.00
Routine, chemical qual. with micro.	3.00	Smears, all, except otherwise noted	3.00
Routine, chemical and micro. and quant. sugar	5.00	Search for bacilli in exudates	3.00
Arsenic or lead (heavy metals)	10.00	Sputum for T. B.	3.00
Quantitative urea	2.00	Simple sputum culture	5.00
Quantitative creatinine	2.00	Special sputum culture	5.00
		Sputum, microscopic	2.00
		Vaccines, sputum or autogenous	10.00
		Typing of pneumococcus	10.00
		Fungus exam. and culture	10.00
		Allergy test, plus cost of material	25.00
		Dark field, no charge for smear venereal, etc.	5.00
		Stomach contents for ferments	5.00
		Ewald or retention	5.00
		Fractional Refhus	5.00
		Bacteriophages	10.00
		Calculi	5.00
		Routine gastric analysis	6.00
		Parasites	3.00
		Typhoid and para cultures	5.00
		Micro. for bacteria, etc.	3.00
		Urobilin	3.00
		Urobilin, quant.	5.00
		Histamine	3.00
		Occult blood only	2.00
		Ferments	5.00
		Simple culture	5.00
		Special culture	5.00
		Fats—quant.	5.00
		Basal metabolism	10.00
		Immunology and allergy	25.00
		Spinal puncture with manometric determination	10.00
		Complete post-mortem and report without	
		micro. work	50.00
		Complete post-mortem and report with tissue	
		micro. examination	75.00
		Other post-mortem laboratory work as scheduled above.	
		When pathologist visits patient's home or other place	
		to obtain specimen, add \$3.00 for home visit to the	
		above items.	
		The attending physician will not make charge for obtaining specimen, except spinal puncture (\$10.00).	



## NEWS ITEMS

Dr. A. J. Ayers, Atlanta, announces that after July 1 his practice will be limited to x-ray diagnosis, x-ray therapy and tissue pathology, 111 Medical Arts Building, Atlanta.

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The Bibb County Medical Society held its regular meeting at Ridley Hall, Macon, June 3. Program: "Tumors of the Head and Neck" by Dr. Milford Hatcher, Macon. Dr. A. M. Phillips, secretary.

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Dr. C. C. Chappell, Jr., recently released after five years' service as a medical officer in the U. S. Navy, announces the opening of his offices for the practice of medicine at Lumpkin. Dr. Chappell is taking over the offices of Dr. W. V. Roberts, who is leaving Lumpkin to join the staff of a Jacksonville, Florida, hospital.

\* \* \*

Dr. William E. Carskadon, Atlanta, announces his association with the Lowance Clinic, suite 215 Doctors Building, 478 Peachtree Street, N. E., Atlanta. Internal medicine, allergy, cardiology, pathology and roentgenology. Drs. Mason Lowance, Eugenia C. Jones, Warren B. Mathews, Edgar M. Dunstan and Wm. E. Carskadon.

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Dr. T. M. Cole, native of Newnan, and graduate of the University of Edinburgh, Scotland, School of Medicine, has opened offices in the Doctors Building, Albany, for the practice of medicine.

\* \* \*

Dr. O. F. Deen, formerly of Douglas, announces his association with Dr. W. P. Kirkland, Manchester, for the practice of medicine. Dr. Deen was graduated from the University of Georgia School of Medicine, Augusta in 1944. He interned for one year at the University Hospital, Augusta, and then served as house surgeon for the Atlantic Coast Line Railroad, Rocky Mount, N. C., until his entrance into the Army Medical Corps in 1945. He was assigned for 18 months' service with the Veterans Administration in St. Petersburg and Miami, Fla.

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Emory University School of Medicine, Atlanta, recently held its first post-war revival of medical clinics. More than 150 physicians from at least seven graduating classes from all parts of the nation attended. Coinciding with celebrations of the university's homecoming week, the clinics were held for several days.

Among the participants were members of the medical class of 1897, who celebrated the 50th anniversary of their graduation, but no formal reunion was held according to Dr. C. W. Strickler, Sr., councilman. The class of 1915, whose councilman is Dr. Edgar H. Greene, Atlanta, held a reunion dinner at Henry Grady Hotel. The 30th reunion of the class of 1917 was held at the Henry Grady Hotel, according to Dr. A. J. Ayers, Atlanta. The classes of 1921 and 1922 held their reunion dinner at the Atlanta Biltmore with Drs. M. T. Harrison and J. K. Fancher in charge of arrangements. Dr. Mason I. Lowance, Atlanta, councilman for the class of 1927 held an informal dinner at his home 887 West Wesley Road, for his classmates. The class of 1932 were entertained at the Capital City Club, Dr. William W. Bryan announced. The 1937 group, celebrating the tenth anniversary of their graduation, met at the home of Dr. William Dobes, 912 Lullwater Road, N. E., Atlanta, with Dr. Charles F. Stone, Atlanta, as councilman.

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The Georgia Medical Society held its regular meeting at the society's hall, 612 Drayton Street, Savannah, June 10. Program: "Clinical Research in Cancer", by Dr. A. L. Holloman. Dr. G. H. Johnson, Jr., secretary.

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Dr. L. E. Hackett, native of Camilla, announces the opening of his offices for the practice of medicine

at Meigs. Dr. Hackett graduated from the University of Georgia School of Medicine, Augusta, and interned in the Memorial Hospital, Charlotte, N. C.

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Drs. Lynn Huie and Homer Head, Monroe, announce the removal of their offices to the new Doctors Building on West Spring Street, Monroe.

\* \* \*

Dr. Jack W. Jones and Dr. Herbert S. Alden, Atlanta, announce the association of Dr. Joseph L. Rankin in the practice of dermatology, suite 711 Medical Arts Building, Atlanta.

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Dr. Joseph M. Jackson, Waycross, announces his association with Dr. W. R. McCoy, Folkston, at McCoy Hospital for the general practice of medicine.

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LOCAL PHYSICIANS HONORED.—Savannah's medical profession came in for deserving honors this week when two of its distinguished representatives were recognized for their gifts and leadership.

Dr. C. A. Henderson was elected president of the Georgia Public Health Association for next year at the organization's convention in Atlanta, and in addition he succeeded in landing next year's sessions for Savannah.

Dr. Walter A. Norton was chosen a senior fellow in the Southeastern Surgical Congress, which is considered a coveted role by the profession; and he is already a fellow in the American College of Surgeons.

Friends of these two popular physicians, in and out of medical circles, will be pleased to learn about these latest honors that have come to them, and they are to be warmly congratulated.—*Savannah (Ga.) News*, June 14, 1947.

\* \* \*

Drs. Herbert S. Kupperman and Robert B. Greenblatt, of the University of Georgia School of Medicine, Augusta, have developed a two-hour pregnancy test, which they describe as faster and more accurate than present methods. The two-hour time requirement for their test compares with the six and 96 hours for other pregnancy diagnostic procedures. They described their test recently at the centennial convention of the American Medical Association, Atlantic City.

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Dr. Herbert M. Olnick, Dahlonega, announces he will take post-graduate work in x-ray diagnosis at Grady Memorial Hospital, Atlanta. Dr. Derrell C. Sirmons succeeds Dr. Olnick as physician and surgeon at Dahlonega and in Lumpkin County.

\* \* \*

Dr. Buford L. O'Neal, Atlanta, announces the opening of offices associated with Dr. Herschel C. Crawford, 705 Doctors Building, 478 Peachtree St., N. E., Atlanta. Practice limited to diseases of the eye, ear, nose and throat.

\* \* \*

The Georgia Medical Society meeting was held at the society's hall, 612 Drayton Street, Savannah, June 24. Subject: "Tularemia Pneumonia," by Dr. D. Unterman on the staff of the Marine Hospital, Savannah. G. H. Johnsons, Jr., secretary.

\* \* \*

Dr. James A. Redfearn, Albany physician, and his brother, Daniel H. Redfearn of Miami, Fla., attorney, recently received the highest recognition accorded by the University of Georgia Alumni Society—the Award for Outstanding Services to their Alma Mater—when graduates from all sections of Georgia gathered in Athens for their annual Alumni Day exercises. Dr. R. P. Brooks, Dean of Faculties, made the presentation and paid tribute to these men for their "outstanding services to Alma Mater and the State." Dr. Redfearn, class of 1909, was one of the first four graduates of the University School of Pharmacy. He



has instituted, as an annual award in the Pharmacy School, the Robert C. Wilson Prize, which goes yearly to the student selected the "outstanding senior in pharmacy." Mr. Daniel H. Redfearn, outstanding Miami attorney, received the B. L. and B. S. Degrees in 1909 and 1910 respectively, offers a yearly prize of \$50 to the student writing the best article on "Suggested Changes in the Remedial Laws of Georgia."

\* \* \*

The Richmond County Department of Public Health, Augusta, will have six senior medical students of the University of Georgia School of Medicine assigned to duty for two months this summer. Dr. Abe J. Davis, commissioner, announced recently. They will take assignments from Dr. Davis and will learn something of public health problems and services while working with the board of health.

\* \* \*

Dr. Joe S. Robinson, formerly of Rochelle, and a graduate of the University of Georgia School of Medicine, Augusta, announces his association with Dr. J. I. Matthews, Matthews Hospital, Dallas, for the practice of medicine and surgery. Dr. Robinson was recently discharged from the Medical Corps of the U. S. Army. He spent one year at O'Reilly General Hospital, Springfield, Mo., and a year in Frankfurt, Germany, where he was assigned to the 97th General Hospital.

\* \* \*

Dr. James H. Semans, Atlanta, announces the opening of his office at 34 Seventh Street, N. E., Atlanta, for the practice of urology.

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The Sixth District Medical Society of the Medical Association of Georgia met at the U. S. Naval Hospital, Dublin, June 25, as guests of Laurens County Medical Society and the U. S. Naval Hospital. Program: Address of Welcome, Captain J. L. Logue (MC) USN; "Present Concepts Concerning the Diagnosis and Treatment of Rheumatic Fever", LCDR. James B. Black (MC) USN; "Recent Advances in the Pathogenesis of Rheumatic Fever", LCDR. John R. Seal (MC) USN; "Modern Treatment of Burns", LTJG. Mark M. Lindsey (MC) USN; "Acne Vulgaris: Discussion of Lantern Slides", R. M. Reifler, M. D., Macon; "The Clinical Interpretation and Use of Quantitative Serologic Tests for Syphilis", W. Derrel Hazelhurst, M. D., Macon; Official Remarks, Steve P. Kenyon, M. D., Dawson, president, Medical Association of Georgia. Officers: President, Chas. B. Fulghum, M. D., Milledgeville; Vice-President, Fred Rawlings, M. D., Sandersville; Secretary-Treasurer, A. M. Phillips, M. D., Macon.

\* \* \*

Dr. A. Worth Hobby, Atlanta, recently attended the American College of Chest Physicians' meeting in Atlantic City, where he took part in the program.

\* \* \*

The South Georgia and Suwanee Valley Medical Societies recently held a joint meeting at the White Springs Hotel, White Springs, Fla., with Dr. A. F. Saunders of Valdosta as host to the group of physicians. Included in the technical discussion of peptic ulcers and their treatment were expressions of concern over the taste of the medicine given the patient. Dr. Saunders introduced the physicians of the groups who have recently returned to civilian practice from the armed service. Dr. Marian E. Farber, Valdosta, discussed her work as college physician of the Georgia State Woman's College.

\* \* \*

Dr. W. G. Tyson, Savannah, recently attended the centennial celebration of the American Medical Association held in Atlantic City. Dr. Tyson is a member of the Society for Investigative Dermatology, and an associate fellow of the American College of Allergists.

\* \* \*

The University of Georgia School of Medicine, Augusta, recently held a post-graduate course in endocrinology.

The course was given by the staff of the department of endocrinology, and was discontinued during the war years. The school authorities plan to make it an annual event. Physicians from Florida, Alabama, South Carolina, Georgia, Virginia, New Jersey and New York attended. Members taking the course held a banquet at the Bon Air Hotel. The guest speaker was the noted Augusta author, Edison Marshall. Other speakers were Dr. G. Lombard Kelly, dean of the University of Georgia School of Medicine, and Dr. Robert B. Greenblatt, professor of endocrinology in the medical school.

\* \* \*

Dr. W. G. Watson, formerly of Trenton, S. C., an Army veteran spending almost two years in Korea, announces his association with Dr. J. W. Thurmond, 623 Greene Street, Augusta, for the practice of medicine.

\* \* \*

Dr. John D. Wiley, Sparta, for many years one of the physicians at the Georgia State Hospital, Milledgeville, has moved to Morgantown, N. C., where he is connected with one of the state mental hospitals.

\* \* \*

Dr. A. H. Frye, Jr., Griffin, was recently appointed company surgeon for Griffin by the Central of Georgia Railroad. He succeeds Dr. T. G. Smaha, Griffin, resigned.

\* \* \*

Dr. M. E. Winchester, Brunswick, Glynn County Health Commissioner, was recently installed President of the Georgia Public Health Association as the organization concluded its three-day convention in Atlanta. Dr. Winchester succeeds Dr. Abe J. Davis, Augusta, retiring president. Dr. Clair A. Henderson, Savannah, Chatham County Health Commission was elected president-elect. J. A. Wilman, Sanitation Engineer of the Columbus-Muscogee County Health Department, was named vice-president, and Lova G. Lenert, of the State Department of Public Health, was re-elected secretary-treasurer. The association voted to hold its next annual convention at Savannah next spring, the date to be announced later. Speakers on technical subjects in the closing meeting of the convention included Dr. Edgar Pund, of the University of Georgia School of Medicine, Augusta; Dr. R. A. Vonderlehr, of the United States Public Health Service, Atlanta; Dr. Elmer L. Hill, United States Public Health official, Thomasville; Dr. W. D. Lundquist, Waynesboro; Dr. John M. David, Albany, and James W. Hammond, Atlanta.

\* \* \*

The Polk General Hospital, Cedartown, was recently completed and held open house for the public May 25 and complete hospitalization facilities were available May 26. The Polk General Hospital provides 26 beds for white patients and six for colored patients. The white nursery has adequate space for ten bassinets, and a small nursery for colored infants. Dr. P. O. Chaudron, Cedartown physician, has been designated as Chief of the Medical Staff of Polk General Hospital by the Polk County Medical Society. Since May, 1946, the hospital has been governed by a Board of Trustees named by the City and County Boards of Commissioners and constituting a Polk County Hospital Authority. Various authorities who have inspected the hospital have described it as one of the most modern and complete small city hospitals in the entire Southeast. Details of the building and equipment reflect very careful planning. There are two ultra-modern operating rooms, an emergency room, a well-equipped laboratory and the latest type of x-ray equipment.

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The Board of Medical Examiners of the State of Indiana requests that all physicians who have been licensed to practice in Indiana, wherever they live, contact immediately their office at 416 K. of P. Building, Indianapolis, Indiana.

## POST-GRADUATE COURSE IN INFECTIOUS DISEASES

Emory University School of Medicine announces a post-graduate course in infectious diseases to be conducted in cooperation with the Georgia Department of Public Health. It will be held September 18-19, 1947, at Grady Memorial Hospital, Atlanta.

This course is planned specifically for the public health physician and general practitioner. It is intended to be a practical and comprehensive study of the latest methods of clinical and laboratory diagnosis and treatment of communicable diseases, including venereal infections.

### TENTATIVE PROGRAM

*Penicillin and streptomycin therapy:* Indications, dosage, pharmacologic action, bacterial resistance.

*Poliomyelitis:* Transmission, diagnosis, management.

*Tuberculosis:* Use of streptomycin, B.C.G. vaccination, detection by photofluorography.

*Rickettsial diseases:* New methods of treatment, diagnosis and epidemiology.

*Syphilis:* Diagnosis, serologic interpretation, false positive reactions, penicillin therapy.

*Gonorrhea:* Management and complications.

*Respiratory infections:* Etiology, differentiation and treatment of colds, influenza, pneumonias.

*Streptococcal infections:* Relation to nephritis and rheumatic fever, scarlet fever.

*Helminthic infections:* Diagnosis and treatment.

*Value and methods of immunization for diphtheria, measles, tetanus, pertussis and rabies.*

*Food poisoning and dysentery:* Diagnosis and treatment.

*Practical demonstrations of laboratory technics and procedures* useful in private practice.

Please fill out slip below and mail before August 25, if interested in taking the course.

To: Dr. R. H. Oppenheimer  
Grady Memorial Hospital  
Atlanta 3, Georgia.

I am interested in attending the Post-Graduate Course in Infectious Diseases on September 18-19, 1947.

Comment: .....

Signed: .....

Address: .....

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Dr. John S. Atwater, Atlanta, was recently certified by the American Board of Internal Medicine, and the American Board of Gastroenterology.

\* \* \*

Dr. I. B. Cantor, Atlanta, announces the removal of his office to the terrace floor, 826 Peachtree Street, N. E., Atlanta.

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Dr. Carey A. Mickel, Jr., Atlanta, was recently promoted to the rank of captain, Eighth Army Headquarters announced. Dr. Mickel is now stationed in Japan.

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Dr. Herbert L. Treusch, Atlanta, has been promoted to the consulting staff of the Board of Veterans Appeals, Washington, D. C.

\* \* \*

Dr. Charles B. Upshaw and Dr. Robert H. Gillespie, Atlanta, announce the association of Dr. George A. Niles in the practice of obstetrics and gynecology, 18 Fourth Street, N. W., Atlanta.

Dr. Goodrich C. White, president of the Emory University School of Medicine, Atlanta, recently named the following new faculty members in the School of Medicine: Dr. Arthur P. Richardson professor and chairman of the department of pharmacology; Dr. Calvin B. Stewart, associate in surgery; Dr. John Warkentin, associate in psychiatry; Dr. Shelley Carter Davis, instructor in obstetrics and gynecology; Dr. Joseph Rankin, instructor in medicine; Dr. Arthur M. Pruce, instructor in physical medicine; Dr. Joseph P. Melvin, assistant in medicine, and physician for the student health program; Dr. Caroline K. Pratt, assistant in medicine; Dr. Harry J. Price, assistant in medicine; Dr. Philip K. Bondy, assistant in medicine; Dr. William S. Hooten, physician for student health program; Dr. Roy L. Robertson, assistant in surgery; Dr. Charles Swift Jones, associate in surgery; Dr. Thomas Dale Alford, instructor in clinical ophthalmology; and Dr. Frank Kanthak, lecturer in plastic and oral surgery.

### OBITUARY

DR. COBB RUTHERFORD BARKSDALE, aged 70, beloved Blakely physician, died in an Atlanta hospital May 28, 1947. Dr. Barksdale was a native of Blakely, Early County, son of the late William Alford and Ida Mulligan Barksdale, a prominent Blakely family. He graduated from the University of Georgia School of Medicine, Augusta, in 1900. He practiced medicine in Blakely for 47 years, and served both as mayor and as a councilman, was also County physician for Early County for a number of years. He was a member of the Tri-County Medical Society, the Medical Association of Georgia, the Blakely Rotary Club, and the Blakely Baptist Church. Dr. Barksdale served as superintendent of the Baptist Sunday School for 22 years and had been a member of the board of deacons of his church for 27 years. Survivors include a daughter, Mrs. Amanda B. McLendon, Blakely; two sons, William B. Barksdale, Blakely, and Dr. C. R. Barksdale, Jr., Grantville; a sister, Miss Fleda Barksdale, Blakely; a brother, Bernard Barksdale, Adel; and four grandchildren. Funeral services were held at the First Baptist Church, with the pastor, the Rev. W. E. Storey, and former pastor, the Rev. S. B. King, Americus, and the Rev. J. S. Harisfield, Blakely, officiating. The board of deacons of the Baptist church served as an honorary escort. Burial was in the City Cemetery, Blakely.

\* \* \*

DR. PETER JAMES BROWN, aged 67, beloved Conyers physicians, died in an Atlanta hospital May 24, 1947. Dr. Brown was born in Newnan, graduated from the Atlanta School of Medicine, Atlanta, in 1903, and began his medical practice in Gwinnett County. He moved to Conyers in 1922 and had practiced medicine there until his recent illness. He was a member of the Conyers Baptist Church, Masonic Lodge and the Lions Club, and was one of the best citizens of Conyers. He was a member of the Rockdale County Medical Society and the Medical Association of Georgia. He is survived by his wife, the former Miss Pearl Stone; a son, Dr. Joseph C. Brown, Chicago; a daughter, Mrs. Robert Stahler, Philadelphia. Funeral services were held at the Conyers Methodist Church, with the four pastors, the Rev. W. S. Adams, the Rev. T. H. Shackelford, the Rev. J. F. Akin, and the Rev. T. H. Maxwell officiating. Burial was in East View Cemetery, Conyers.

\* \* \*

DR. WILLIAM MARCUS BYNE, age 78, retired physician of Griffin and Zetella, died at his home at Zetella, May 9, 1947. Dr. Byne graduated from the Louisville Medical College, Louisville, Ky., in 1891. He was a member of the Mt. Zion Methodist Church, and was a practicing physician for 50 years. He lived in Zetella for 51 years. Survivors include his wife, Mrs. Mattie Caldwell Byne, and a son, Horace C. Byne, both of Zetella. Funeral services were held



at the Mt. Zion Methodist Church, with the Rev. Mercer Ingram officiating. Burial was in the churchyard cemetery, Zetella.

\* \* \*

DR. WARREN ASHLEY COLEMAN, aged 52, prominent Eastman physician, died unexpectedly of a heart attack, June 15, 1947. Dr. Coleman was the son of the late Rev. and Mrs. W. H. Coleman, pioneer citizens of Dodge County. He graduated from Emory University School of Medicine, Atlanta, in 1917. He was a fellow of the American College of Surgeons and was widely known in educational and medical circles throughout Middle Georgia. The Algernon Sydney Award of the Southern Society of New York was presented to Dr. Coleman in June, 1946, at commencement exercises at Mercer University, Macon. He was for many years active in civic and religious affairs of Dodge County, and was founder of Coleman Memorial Hospital, named in memory of his father and mother. He sold the hospital recently to Drs. James L. Thompson and Palmer Mayo. He was a member of the Ocmulgee County Medical Society, the Medical Association of Georgia, and a fellow of the American Medical Association. Survivors include his wife, the former Miss Christine Edwards; two daughters, Mrs. James L. Thompson, and Mrs. Richard Wilson; and six brothers, J. A. Coleman, W. T. Coleman and G. L. Coleman, all of Eastman; W. J. Coleman, Orlando, Fla.; W. H. Coleman, Jacksonville, Fla., and H. C. Coleman, Cochran. Funeral services were held at the residence, with the Rev. Max O'Neal and the Rev. Judson Burrell officiating. Burial was in Woodlawn Cemetery, Eastman.

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DR. CECIL MARVIN HITCHCOCK, aged 64, veteran Moultrie physician, died at his home in North Main Street, June 5, 1947. A native of Devereaux, he was graduated from the University of Georgia School of Medicine, Augusta, in 1906. He began the practice of medicine 41 years ago and six years later came to Moultrie. Dr. Hitchcock was county physician for a number of years and during World War II was examining physician for the Colquitt County Selective Service Board. In those two posts he served with the same singular devotion to his profession that characterized him in his private practice. He took high rank among his associates in the medical profession and as a citizen was held in high esteem. Surviving are his wife, the former Miss Pearl Helton, Toombsboro; two sons, C. M. Hitchcock, Jr., Dallas, Texas, and W. O. Hitchcock, Warner Robins; four daughters, Mrs. C. W. Taylor, Ft. Walton, Fla.; Mrs. M. J. Poole, Mrs. C. E. Poole, and Miss Marilyn Hitchcock, all of Moultrie; two brothers, four sisters, and eight grandchildren. Funeral services were held from the Hitchcock home with Dr. R. C. Gresham, pastor of the First Baptist Church officiating, of which Dr. Hitchcock had been a member since coming to Moultrie. Burial was in Westview Cemetery, Moultrie.

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DR. ROBERT LOUIS McCORKLE, aged 30, of 1023 Hemphill Ave., N. W., Atlanta, was accidentally electrocuted in Gaffney, S. C., when his automobile struck an electric pole and knocked loose a 33,000-volt wire which came in contact with his car, June 15, 1947. Born in Charlotte, N. C., he graduated from Emory University School of Medicine, Atlanta, in 1941. He served his internship at Georgia Baptist and Crawford W. Long hospitals, Atlanta. He served in the Navy during the war, leaving the service as a lieutenant senior grade. He was a member of the Fulton County Medical Society, the Medical Association of Georgia and the First Methodist Church. Surviving are his wife; a daughter, Barbara Cheryl; five sisters, and six brothers. Funeral services were held at the North Atlanta Baptist Church, Atlanta. Burial was in Newnan.

DR. EDWARD JENNINGS OVERSTREET, aged 49, Baxley physician, died at his home June 2, 1947. He was the son of the late Dr. and Mrs. J. E. Overstreet, and graduated from Emory University School of Medicine, Atlanta, in 1924. After three years' practice of medicine in Bradenton, Fla., he located in Baxley. Dr. Overstreet was a member of Holmesville Masonic Lodge, the Baxley Camp of Woodmen of the World, Baxley Kiwanis Club, the American Legion, the First Baptist Church of Baxley, the Appling County Medical Society and the Medical Association of Georgia. He was a veteran of World War I and for many years served as service officer of the Altamaha post of the American Legion. He also served as a member of the Baxley City Board of Education. He is survived by his wife, Mrs. Lucile Grainger Overstreet; two sons, James Edward, and George Allen Overstreet, and two sisters, Miss Grace Overstreet, Baxley, and Mrs. Cuthbert C. Douglas, San Juan, Puerto Rico. Funeral services were held from the First Baptist Church, Baxley, with the Rev. Gny N. Atkinson officiating, assisted by the Rev. A. W. Quillian, Jr. and the Rev. H. E. Stipe, Savannah. Burial was in Omega Cemetery, Baxley.

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DR. HUGH KINGSLEY PHILLIPS, aged 67, beloved physician of Helen, died in a Gainesville hospital, May 18, 1947. Born in West Virginia, he moved with his parents, the late Rev. and Mrs. W. O. Phillips, to Georgia many years ago, the family settling in Demorest. Dr. Phillips graduated from the Atlanta College of Physicians and Surgeons, Atlanta, in 1913. Shortly after completing his medical education he located in Nacoochee Valley and had a widespread practice in White County for many years. At all times interested in civic activities, Dr. Phillips was highly esteemed as a Past Master of the Yonah Masonic Lodge, was a member of the American Legion, as a result of valuable service rendered in the Army during World War I, was a past president of the Hall County Medical Society, and was a member of the Presbyterian Church. He is survived by his wife, Mrs. Chlorine Phillips, two step-sons, Joe Allen and Frazier Miller, and two brothers, W. Brooks Phillips, Washington, D. C., and Maurice Phillips, Ithaca, N. Y. Funeral services were held in the Congregational Church, Demorest, with the Rev. H. H. Humphries officiating. A Masonic burial and honors were accorded Dr. Phillips, under the leadership of Dr. L. G. Neal. Burial was in Demorest Cemetery, Demorest.

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DR. WM. HARRY GOODRICH, Augusta, aged 74, former dean of the University of Georgia School of Medicine, was drowned while fishing in Port Royal Sound, S. C., near the mouth of the Broad River, April 26, 1947. Dr. Goodrich was an honor graduate in medicine of the University of Georgia School of Medicine in 1897. He was dean of the University of Georgia Medical School from June 1926, until his retirement in 1931. In 1939 he was appointed superintendent of the University Hospital, Augusta. He was a member of the Richmond County Medical Society, and the Medical Association of Georgia.

#### NEW BOOK

##### A HISTORY OF THE AMERICAN MEDICAL ASSOCIATION 1847-1947

A HISTORY OF THE AMERICAN MEDICAL ASSOCIATION, 1847-1947: By Morris Fishbein, M.D., with the Biographies of the Presidents of the Association by Walter L. Biering, M.D., and with Histories of the Publications, Councils, Bureaus, and Other Official Bodies. 1226 pages. Philadelphia and London: W. B. Saunders Company, 1947. Price \$10.00.



# THE JOURNAL OF THE MEDICAL ASSOCIATION OF GEORGIA

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## VAGOTOMY

JOHN W. TURNER, M.D.

Atlanta

Vagotomy or section of the vagus nerves is not a recent procedure, although it is only within the past few years that total vagotomy has been used as a treatment of peptic ulcer. Since Pavlov studied a denervated gastric pouch of a dog's stomach, many research students have used the procedure in the study of gastric function. In 1912 Exner and Schwartzman reported vagotomy in 20 cases and Latarjet reported 25 cases operated on in order "to cut off sensation, diminish the frequency and intensity of the contractions and probably to diminish the acidity" in an attempt to relieve the patients of the gastric crises in tabes. In 1938 Winkelstein and Berg<sup>1</sup> recommended subdiaphragmatic vagotomy associated with subtotal gastrectomy for the surgical treatment of duodenal ulcer accompanied by high acidity and reported that 26 of the 34 cases operated upon developed achlorhydria.

Dragstedt and Owens<sup>2</sup> reported in 1943 their first two cases of vagotomy for the treatment of peptic ulcer. The operation was a bilateral supradiaphragmatic section of the vagus nerves with removal of a section and it was reported that both of the patients were benefited by their operations. This was a report of the first deliberate total section of the vagus nerves in the treatment of peptic ulcer. Subsequently

Dragstedt and his associates performed vagotomy approximately 200 times for the surgical treatment of peptic ulcer. Recently the Dragstedt Clinic has been performing a transabdominal vagotomy and is enthusiastic in regard to their results. Grimson et al<sup>3</sup> reported their experiences with supradiaphragmatic vagotomy in 25 cases of refractory peptic ulcer and stated that "transthoracic vagotomy has been an effective treatment" but Grimson<sup>4</sup> also stated, after 111 transthoracic sympathectomies and 33 transthoracic vagotomies, that the operation had been associated with a relatively high incidence of occurrence of complications, a large proportion of which were directly associated with the thoracotomy.

Thus those responsible for the two largest series of vagotomies reported are enthusiastic in proclaiming its value in the treatment of peptic ulcer, but do not hesitate to state that the period of postoperative observation has been too short for the formation of a final verdict.

Total vagotomy or gastric neurectomy accomplishes certain definite effects. These effects have been carefully studied and reported by Dragstedt and by Grimson<sup>3</sup>. (1) After operation there is a delay in the emptying time of the stomach which is dependent upon the decrease in the gastric peristalsis, with a decrease in both the amplitude and the number of the gastric contractions. This delay in emptying time is of large rather than small degree, with a 4 to 6 hour retention of 30 to 100 per cent as shown by a table from an article by Grimson. (2) There is a decrease in the

<sup>1</sup>Read before the Medical Association of Georgia, Augusta, April 23, 1947.

volume and acidity of the gastric secretion. This decrease is effected by a decrease in the neurogenic secretion and therefore affects to a greater degree that secretion which occurs during the period when the stomach is empty. Secretion from 8 P.M. to 8 A.M. was shown by Grimson in a study of 18 patients to have decreased from an average volume of 946 c.c. before operation to an average of 342 c.c. after operation and the acidity of the secretion of the fasting stomach about 60 per cent or from an average pH of 1.72 before operation to an average of 3.55 after operation. That gastric secretion which is stimulated by food in either the stomach or the upper intestinal tract and which is the minor portion of the total secretion is not affected by the section of the vagus nerves. (3) There is an immediate and total relief of the ulcer pain. This decrease in gastric motility and in the acidity of the gastric secretion has resulted in the healing of the ulcer in the great majority of the cases within a comparatively short period of time.

Vagotomy is associated with certain complications. The complications which have been observed are cardiospasm, acute dilatation of the stomach, persistent gastric distention, gastric atony with a marked delay in the emptying time, pylorospasm, and a persistent diarrhea. The cardiospasm is not persistent and there has been no report of its having given any great discomfort. Although acute dilatation is listed as one of the complications, I have not seen it referred to as having occurred in any specific case. Grimson<sup>4</sup> has stated that many of his patients have complained of a persistent epigastric distention and he has shown the delayed emptying of the stomach which may be responsible for that discomfort. Pylorospasm has been given as a contributory factor in the gastric distention and delayed emptying. There has been no satis-

factory explanation of the cause of the troublesome diarrhea which has been reported as a frequent sequel to vagotomy and no specific mode of treatment has been successfully employed.

With this understanding of the results accomplished and of the complications of the operation, it is possible to determine the indications for the use of vagotomy in the treatment of peptic ulcer and transabdominal or subdiaphragmatic vagotomy is the type procedure to which reference will be made, unless indicated otherwise. First, it must be understood that, although vagotomy greatly widens the field of indications for surgical intervention, it is still the internist's duty to treat the average case of peptic ulcer. The young or middle aged patient with a history of a peptic ulceration of long standing, with a great amount of pain, with incapacitation and with prolonged medical treatment, should be considered the ideal patient for vagotomy. Those patients who have had previous operations such as gastroenterostomy, pyloroplasty, or partial resection and who have unhealed or stomal ulcers should be subjected to gastric neurectomy. This operation is also indicated for those patients who have had previous perforations or hemorrhages and continue to suffer from ulcer symptoms in spite of medical treatment. It is particularly the operation of choice for duodenal ulcers. For gastric ulcers, where it may be difficult to determine by gross examination whether the ulcer is benign or malignant, the burden of proof is upon the surgeon and he must continue to use partial gastrectomy whenever there is the slightest suspicion of malignancy. Vagotomy alone is contraindicated in acute perforation, active hemorrhage, or cicatricial obstruction. Obstruction is no contraindication, however, if posterior gastroenterostomy is combined with vagotomy.

It has been my practice to combine posterior gastroenterostomy with vagotomy in the patients upon whom I have operated. Transabdominal vagotomy is done as a matter of choice, as the frequent complications associated with the transthoracic approach are thereby avoided and the abdominal approach affords an opportunity for inspection of the ulcer. This procedure seems to be logical and is being done more frequently at the larger clinics where vagotomy is accepted surgical practice. The posterior gastrojejunostomy provides a ready emptying and is a safety valve which nullifies the detrimental effect of the more frequent and distressing complications, such as the acute dilatation, the distention, the pylorospasm and the delayed emptying time. Vagotomy and posterior gastrojejunostomy afford an example of perfect symbiosis in surgical procedure.

Among the cases was a woman of 73 who had suffered from a duodenal ulcer syndrome for a period of 35 years and complained of constant distress. Her spleen was adherent to the left dome of the diaphragm and about one-fifth of the splenic capsule was torn off in packing the spleen down. The spleen was removed, vagotomy and posterior gastroenterostomy were done and she had an uneventful recovery, leaving the hospital on her sixth postoperative day. She had some lower abdominal distention, which has been manifest in these cases more often than epigastric distention. She reported to my office recently that she has eaten anything she wanted since the operation and has had no discomfort. One other patient, a young man of 25 years, suffered marked epigastric distention for four days postoperatively, but left the hospital on his eighth postoperative day. Another patient, a minister 37 years age, suffered from cardiospasm beginning on his tenth postoperative day after he had gone home. He

came back to my office on his thirteenth postoperative day and was told to chew all food well and to eat or drink nothing very hot or very cold. He was given no antispasmodics or other medicine and reported later that he had had no further trouble. No other patient has had any unpleasant postoperative complication, and they are enthusiastic about their results.

Before operation an acceptable donor is secured. If the patient has a hemoglobin estimation below 80 per cent, or 11 Gm., and/or a total red cell count below 3,800,000, he is given a transfusion of 500 c.c. of blood during the operation in addition to 1000 c.c. of 5 per cent glucose in normal saline every eight hours unless there are indications of excessive fluid retention. The patient is allowed cracked ice in limited amounts during the first 24 hours. During the second 24 hours the patient is allowed two ounces of ice water every hour, and on the third day he is allowed soft food in limited amounts, and water freely. The venoclysis is gradually discontinued. There have been three cases in which it seemed advisable to insert a Levin tube and only one patient who suffered postoperative vomiting. Ten days to two weeks after operation it can be determined whether the section of the vagi is complete by use of the insulin hypoglycemia test.

Conservatism in the adoption of new surgical procedures is the duty of the surgeon. It should be exhibited however when a less extensive or radical procedure is being given up for the new procedure. It has no proper place in the philosophy of the surgeon when a more extensive and radical procedure is being replaced by a less radical one carrying a decreased morbidity, a lower mortality, and a lower degree of permanent trauma. Such is the condition where partial gastrectomy with gastrojejunostomy, which is an irreversible pro-



cedure, is replaced by vagotomy with gastrojejunostomy. The fear of remote unfavorable sequelae does not seem justified when we apply the results in analogous conditions. When a sensory nerve is sectioned the full effect is prompt and not delayed. There is a tendency for the effect to be less than a total effect with the passage of time. This would encourage the belief that no late unfavorable results will develop from section of the sensory fibers. The atrophy which follows section of motor fibers may require an extended period of time before the full effect is manifest, but there is reason to believe that the autonomic nerves play a large part in the trophic and motor stimulation of the stomach and this fact should tend to minimize the trophic effect of section of the motor fibers of the vagi.

#### REFERENCES

1. Winkelstein, Asher, and Berg, Albert A.: Vagotomy Plus Partial Gastrectomy for Duodenal Ulcer, *Am. J. Digest. Dis. & Nutrition*, 5:497, No. 8.
2. Dragstedt, L. R., and Owens, F. M.: *J. Proc. Soc. Exper. Biol.* 53:152, 1943.
3. Grimson, et al.: Transthoracic Vagotomy. *South. M. J.* 39:460, No. 6.
4. Grimson, Keith S.: *S. Clin. North America* (Oct) 1946.

## CARCINOMA OF THE COLON

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Carcinoma of the colon is the most frequent of all internal cancer<sup>1</sup> and offers most hope when treated early. The improved results of treatment reflect early recognition, more radical therapy, adequate preoperative administration of blood and electrolytes, and the use of the sulfonamides, penicillin, and streptomycin.<sup>2 3 4 5 6 7</sup> The reduction in morbidity and mortality has been effected by decreasing infection which

heretofore has been the important consideration in the care of patients with carcinoma of the colon.

The location of the disease is of importance when viewed from diagnostic, pathologic, and prognostic standpoints. It has been shown that more than 75 per cent of the lesions of the colon are located in the rectum, rectosigmoid, and sigmoid,<sup>8</sup> with the cecum next in order of frequency. Carcinoma of the colon may be roughly divided into right and left sides for diagnosis and therapy. Each of these two groups is presented with different symptoms.<sup>9</sup> This is brought about by the fact that they have unlike pathologic features and that each side of the colon has separate functions.

Variations in bowel habits, such as frequency of movements, change in character or constipation, should make one suspicious of colon involvement. The passage of blood is not always a common symptom. The lesions located in the lower colon and occasionally on the right are more often accompanied by bleeding. Pain is experienced when obstruction exists, although in the early phases of the disease this is an infrequent occurrence. Approximately 75 per cent of carcinomas can be diagnosed by visualization or palpation of a lesion which, in many instances, can be found on the routine physical examination. The presence of an anemia, with or without bowel symptoms, should make one suspicious of the disease.

The routine examination of the colon in elderly and middle-aged individuals may show lesions which would go unrecognized. This should comprise digital, proctoscopic and sigmoidoscopic examinations. In all suspicious cases a barium enema under fluoroscopic control should be done. No general physical examination should be considered complete until the recommended procedures have been done. Fortunately,

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under fluoroscopic observation, the early and late lesions can be found when obstruction has occurred. Lateral and oblique films afford visualization which may otherwise be missed.

The tumors of the right colon have a tendency to be flat, to infiltrate locally on the surface of the mucosa, and to ulcerate early. The cell types are usually of a colloid or mucoid variety of adenocarcinoma and metastasize at a relatively late period. Due to the large diameter of the cecum and ascending colon, extensive involvement can occur without development of obstruction and other noticeable changes in bowel habits. A characteristic feature of these lesions, although not constant, is loss of weight and anemia without changes in bowel habits. Obstruction is a relatively infrequent occurrence.

The lower left side of the colon is less fixed, and its lumen is usually much smaller.<sup>9</sup> The lesions are infiltrative, involving circularly the bowel and producing an annular and progressive obstruction. With the slow-forming obstruction and variable cell types the symptoms may be somewhat insidious. A small localized lesion in the rectosigmoid or sigmoid colon may cause a complete obstruction before other symptoms are manifest. The epithelium is first involved with an extension into the wall of the intestine. The adenoid characteristics are usually maintained. The associated inflammation may be marked with evidence of exudation as well as fibrosis which further increases the narrowing of the lumen and subsequent obstruction. The slow onset of the lesion permits a progressive dilatation and hypertrophy of the wall proximal to the lesion. The associated edema and infection further alter the process. It should be emphasized that all carcinomas involving the left side of the colon, particularly the lower portion, may have associated

internal hemorrhoids. Before undertaking treatment a complete investigation should be made. The existence of a more serious and important primary lesion should be suspected, either within or without the colon, in the middle or older age groups.

Diffuse or localized adenosis occupies an important role as a causative agent in carcinoma of the colon.<sup>10</sup> Polyps in the rectum and rectosigmoid are more frequently encountered, although generalized involvements are not uncommon. The sessile lesions with a base one centimeter or more in diameter should be considered malignant. The pedunculated variety is less often found to be carcinomatous. The prophylactic removal of all such lesions, either locally or by colectomy, when multiple polyps exist, should aid in eliminating this source of malignancy.

The pre-operative care of the colon is most essential for satisfactory results. This consists of those measures usually instituted in the general preparation of all patients with an acute intestinal obstruction or the presence of an associated infection of a lesion and the adjacent peritoneum. The general factors and the local measures are equally important in the promotion of a safer surgical intervention.

In the presence of an acute obstruction the use of the Miller-Abbott tube with constant suction may be of benefit. It is not entirely satisfactory in the progressive obstruction because of the marked chronic change in the bowel.<sup>11</sup> As a rule, vomiting is not a constant symptom, but dehydration may be exhibited. Malnutrition and decreased blood volume are of much importance and should be corrected in spite of normal red cell and hemoglobin estimations. It may be necessary to give from 2000 to 3000 c.c. of blood for this purpose. Saline, glucose, and proteins should be instituted in amounts to adequately replace the electrolyte and protein deficiencies.

The oral administration of either sulfasuxadine or sulfathaladine has aided in reducing local infection. The administration of 0.25 Gm. per kilogram of body weight of succinyl sulfathiazole daily for one week reduces the number of organisms and changes the character of the bowel movements.<sup>2</sup> Emphasis should be placed on the potential as well as actual infection within the tumor and its importance in producing local peritoneal involvement. Pre-operative administration of both streptomycin and penicillin have been shown to be advantageous in lessening postoperative peritonitis, wound infection, and respiratory complications. Ravdin<sup>4</sup> has recently shown that streptomycin given orally before operation is more effective than either sulfasuxadine or sulfathaladine, in reducing the number of colon bacilli, streptococci fecalis, and clostridial organisms.

A barium enema for diagnostic purposes, in the presence of near obstruction, may become fixed in the colon proximal to the lesion and precipitate a complete obstruction. The removal of the barium is not easily accomplished when an obstruction exists. This fact should be remembered when barium is used as a diagnostic procedure prior to contemplated surgery. If the patient is unable to evacuate the barium, measures should be undertaken to remove all of this material prior to operation. Mineral oil should be administered by mouth or through the Levin tube. Enemas should be repeatedly given until the oil is returned through the irrigations. Extreme care should be exercised in giving enemas to these individuals because of the associated inflammation, and the possibility of rupturing the lesion.

The ideal operative procedure would be the immediate resection with primary anastomosis.<sup>12</sup> It is evident from the pathologic processes that such is not always feasible

before relieving the obstruction by decompression either externally or with the use of constant intestinal suction. If there is a complete or partial obstruction, it is more essential that a primary decompression be performed. This is necessary due to the associated hypertrophy and hyperplasia of the intestinal wall. The infection can be eliminated to a marked degree by the judicious use of the sulfonamides, penicillin, and streptomycin, which may permit healing after anastomosis.

Attempts at primary closure will be difficult due to the extreme inflammatory change within the intestinal wall. The presence of active infection may preclude successful healing following anastomosis. In the presence of obstruction and infection it is imperative to institute some type of external decompression, either in the form of a cecostomy, a transverse colostomy, or a sigmoidostomy, depending on the location of the tumor. A transverse colostomy is more effective for left-sided lesions than a cecostomy.<sup>13</sup> It offers a more complete defunctionalization, an easier and better closure once its need has been completed, and the opening is distant to the primary lesion when definitive surgery is undertaken. The main disadvantage is the inability to satisfactorily explore the abdomen. The period of decompression will be variable, depending on the degree of obstruction, the condition of the patient, and the associated inflammation.

There are yet many advocates of stage operations for lesions both of the right and left colon. Rankin,<sup>9</sup> Allen,<sup>14</sup> and Lahey,<sup>8</sup> present evidence that the most satisfactory results can be obtained by assuming that complete preparation can never be obtained and ideal prophylaxis against infection is never accomplished.

Stone and McLanahan<sup>15</sup> and McNealey<sup>12</sup> show equal success with primary resection with immediate aseptic closure. The pres-



ent status can best be summarized by stating that the average patient does best following stage operations, either with preliminary colostomy, followed by resection by the Mikulicz technic and a secondary closure. Any one of these methods following adequate preparation may be satisfactory. Resection with anastomosis may be reserved for those incompletely obstructed or non-obstructed cases, in whom preparation has been adequate. The low rectosigmoid lesions may also be resected and the continuity of the bowel re-established immediately. This may prove difficult, but considerable mobility of the sigmoid affords low anastomosis. It may be necessary in the low lesions to compromise by a permanent colostomy or a proctosigmoidectomy or pull through operation advocated by Bacon and Babcock.<sup>16</sup>

### Summary

1. Carcinoma of the colon is the most frequent and hopeful of all internal cancer.

2. A reduction in mortality and morbidity has been accomplished in the last decade.

3. Lesions of the right and left colon present different symptoms due to variations in structure, physiology, and pathologic characteristics of the tumors.

4. The judicious use of sulfasuxadine, or sulfathaladine, pre-operatively, will decrease the number of coliform organisms.

5. Streptomycin will lessen the number of colon bacilli, streptococci fecalis, and the clostridial organisms in the intestinal tract and peritoneal cavity.

6. The combination of penicillin and streptomycin can more successfully combat associated infections in lesions of the colon.

7. In the presence of an obstruction, stage operations, such as a preliminary decompression followed by Mikulicz procedure or a primary anastomosis, offer the greatest safety to the patient.

8. Primary anastomosis alone should be reserved for those patients without obstruction and in whom pre-operative care has been satisfactory. This is the most ideal form of surgical approach.

### BIBLIOGRAPHY

- Heyd, C. G.: Surgical Treatment of Cancer of the Colon and Rectum, *Am. J. Surg.* 67:479-487.
- Poth, Edgar J.: Succinyl Sulfathiazole; Adjuvant in Surgery of the Large Bowel, *J.A.M.A.* 120:265-269, 1942.
- Poth, Edgar J.; Wise, Robert L. and Slaterry, Mary T.: Penicillin Phthalysulfathiazole Antagonism, *Surgery* 20:147-150 (July) 1946.
- Ravdin, I. S.: Adjuvants to Operation and Surgery of the Large Bowel, *Tr. Am. S. A.* vol. 65, 1947.
- Coller, F. A., and Maddock, W. G.: Water and Electrolyte Balance, *Surg. Gynec. Obst.* 70:340, 1940.
- Elman, R.: Symposium on Fluid and Electrolyte Needs of the Surgical Patient; Parenteral Replacement of Protein with Amino Acids of Hydrolyzed Caseine, *Ann. Surg.* 112:594-602, 1940.
- Jones, T. E.: Treatment of Carcinoma of Colon, *S. Clin. North America*, 19:1123, 1939.
- Lahey, Frank: A Discussion of the Modified Mikulicz Operation for Carcinoma of the Colon and its Technic, *S. Clin. North America*, 26:610-622, June, 1946.
- Rankin, Fred W.: The Principles of Surgery of the Colon, *Surg. Gynec. and Obst.* 72:332-340, 1941.
- Davis, Vernon C.: Management of Polyps Occurring in Rectum and Colon, *Surgery* 14:387, 1943.
- Wagensteen, O. H.: Intestinal Obstruction, ed. 2, Springfield, Charles C. Thomas, 1942.
- McNealy, R. W., and Lands, V. G.: Primary Anastomosis in the Treatment of Carcinoma of the Colon, *Surgery* 21:283-296, 1947.
- Fallis, L. S.: Transverse Colostomy, *Surgery* 20:249-256 (Aug.) 1946.
- Allen, Arthur W.: Carcinoma of Colon, *Surgery* 14:350-365, (Sept.) 1943.
- Stone, Harvey B., and McLanahan, Samuel: Resection and Immediate Aseptic Anastomosis for Carcinoma of Colon, *J.A.M.A.* 120:1362-1365, 1942.
- Babcock, W. W., and Bacon: The Elimination of the Colostomy in Radical Treatment of Cancer of the Large Bowel Based on Over 400 Cases, *Pennsylvania M. J.* 46:1143, (Aug.) 1943.

## SURGERY OF THE COLON AND RECTUM

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During the past year 195 charts have been reviewed of patients who had been admitted to the wards of the Steiner Cancer Clinic, Atlanta, for the diagnosis or treatment of tumors of the colon, sigmoid or rectum. They cover a period of 22 years, and the surgery on these cases was performed by 12 different surgeons. This study was undertaken for the sole purpose of evaluating our results, and it is my purpose to present not merely a statistical report but some of the points of interest as well as impressions gained.

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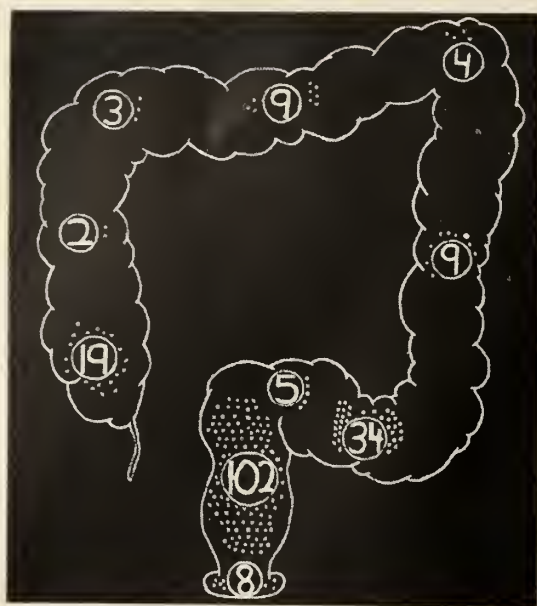


Figure 1  
Diagram of colon and rectum showing distribution of 195 malignant tumors.

The distribution of these lesions can best be seen in figure 1—over 50 per cent were located in the rectum and another 18 per cent were in the sigmoid colon.

As the problem of cancer of the colon has been presented, I shall focus my attention on our findings in the rectal and sigmoid areas.

TABLE 1 — Operations Performed for Cancer of the Rectum and Sigmoid

Year	Patients	Colostomy	Resection	Anastomosis
1925-1935 inclusive	82	27	12	
1936-1946	67	14	42	3
TOTAL	149	41	54	3

Table 1 shows the total rectal and sigmoid cases to number 149. Eighty-two were seen during the years 1925-1935, and 67 were encountered during the last 11-year period, 1935-1946. It is interesting to note the trend away from colostomy—only half as many colostomies were performed during the latter period—and at the same time three to four times more resections were performed. You will note that during the 1925-1935 period only 39 of the 82 cases came to surgery, less than half. The remaining 43 patients were treated with x-ray or radium. Many were considered in-

operable, but 15 cases with carcinoma of rectum were believed to be operable and the criteria of operability were more limited ten years ago than today. These 15 patients were offered surgery but refused and were then treated with x-ray and radium. Only three were alive at the end of five years.

A brief account of one of these patients gives a typical picture of postradiation results:

A woman, aged 54, with a nodular mass 6x4x4 cm. on the anterior rectal wall about 6 cm. above the pectinate line; biopsy report adenocarcinoma grade II; radium emanation September, 1925. Marked tenesmus October, 1925; readmitted for nursing care due to intense rectal pain November and December, 1925, April, 1926; hemorrhaging and had lost 18 pounds weight, August, 1926; stricture of rectum present. February, 1928, the stricture was dilated, and in 1929 a rectovaginal fistula developed.

For the past several years radium has not been used at the Steiner Clinic to treat malignancy of the rectum. Even though the cancer is destroyed by radium the resulting disability is not compatible with normal life.

X-ray therapy is now used only as a palliative procedure.

A word at this point about electrocoagulation. Five patients were treated by fulguration. Three of these developed intestinal obstruction within six months, necessitating colostomy in two. One patient returned for roentgen therapy one year after desiccation of the original lesion, and became a morphine addict. The fifth person illustrates the limitations of this type of therapy. The pathologic report on a biopsy of a papillomatous lesion read "borderline adenomatous polyp lacking evidence of frank malignancy, but must be classified as low grade malignant adenoma." Conservative treatment was advised and the lesion was destroyed by electrocoagulation, but the patient was kept under close observation. Two months later an abdominoperineal resection was performed and the pathologic report of the excised rectum showed

an invading papillary adenocarcinoma grade II. The patient has remained alive without any evidence of cancer for four years.

Local excision or fulguration of a malignant polyp is curative only if the lesion can be entirely destroyed. As this result is uncertain, and the margin of safety is small, this method is hazardous.

It is my opinion, therefore, that with the lowered mortality and morbidity associated with surgery of the colon and rectum today, electrocoagulation should not be used unless there is a definite contraindication for surgery, and I and my associates in the clinic further feel that in the treatment of adenocarcinoma of the rectum, as well as adenocarcinoma elsewhere in the body, bold surgical procedures, with wide excision, alone will suffice for cure, and this cannot be accomplished through a proctoscope.

Of the 41 cases having colostomy, the average postoperative life was six months. Those who lived longest suffered most. Only one patient lived 18 months with a palliative colostomy and remained quite comfortable until death. Many surgeons feel that prolongation of life by this type of surgery is inhumane and have discontinued it. We have substituted a palliative anastomosis around the tumor to relieve obstruction without colostomy, in three cases. Possibly the association of any abdominal colostomy with the undesirable features of a palliative colostomy seen in these hopeless cases of terminal cancer, has prejudiced the profession and laity alike against a curative resection which entails a permanent abdominal colostomy. We have seen enough cases with a permanent abdominal colostomy necessitated by either malignancy or stricture from lymphopathia venerea to be convinced that this is compatible with an active, satisfactory life.

Fifty-four cases were resected, 50 with the hope of completely eradicating the can-

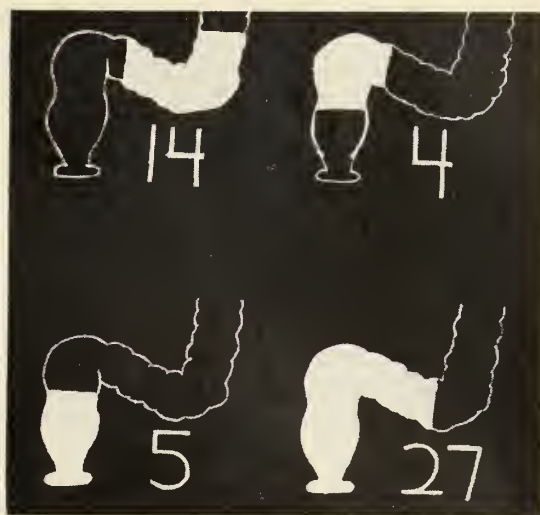


Figure 2  
Areas resected in 50 operative cases of malignancy of the rectum and sigmoid.

cer, and four in hopeless incurable cases with the belief that a palliative resection would add to the comfort of the patient and prolong life. Figure 2 shows the areas resected and the types of operations performed. Of the 14 resections of the sigmoid, ten were of the exteriorization or modified Mikulicz method, three by end-to-end anastomosis and one by the use of a Murphy button. There were two hospital deaths—one a man aged 74 who died three weeks after operation, and the other after an extensive resection of a grade IV adenocarcinoma with involvement of the posterior bladder wall. However, for this small group there was a mortality of approximately 14 per cent. Of the 12 patients who left the hospital, six had recurrences of the tumor. The inference must be drawn that we have probably been too conservative in the amount of tissue resected in our endeavors to deal with the defect. While there is a surge of enthusiasm at the present time for immediate anastomosis, either by the open or aseptic method over clamps after the patient has been prepared with the non-soluble sulfonamides, we are not ready to discard the exteriorization method, as used so successfully by Lahey, and which has so far been the safest in our experience.



In four cases where the lesion was high in the rectum, segmental resection with preservation of the lower rectum was attempted. The method has been advocated by Pratt and is usually referred to as the Pratt procedure. There were no hospital deaths, but the recurrence of cancer was seen in three of these patients and the fourth one has not been heard from since leaving the hospital. Here again we feel the method much too compromising to combat cancer.

The perineal resection was performed five times on lesions at or just above the anus. One case of squamous cell carcinoma was alive six years later; another case of adenocarcinoma showed no evidence of disease nine months postoperatively. The remaining three cases have recurred. Drs. Lynch and Hamilton of New York City are strong enthusiasts of this method. In cases of epidermoid carcinoma where the lymphatic spread may extend to the inguinal region, this procedure is of value. (These glands were resected in one of these cases). But in adenocarcinoma where the invasion is superiorly along the perirectal and mesenteric lymph channels, we feel that abdominoperineal resection should be performed.

The abdominoperineal resection was performed 27 times; in one stage 21 times with two hospital deaths, a mortality of less than 10 per cent; and six two-stage procedures as advocated by Coffey and Lahey respectively, with two hospital deaths or a mortality of 33.33 per cent. These two-stage procedures were done because the patients were bad risks and it was feared a one-stage procedure would be too shocking. We now feel, however, that with a five to seven day hospital pre-operative preparation of the patient and the liberal use of whole blood before, during and after operation, the one-stage procedure is best, eliminating

many hazards of the two-stage operation. Of the 23 patients who left the hospital, 17 are without evidence of recurrence, three have known recurrences, and three are without follow-up. One case has lived eleven years, another ten years, and a third eight years since operation. A total of six are so-called five-year cures, and the remaining 11 are still in the first five-year post-operative period. Two of these abdominoperineal resections were performed without an abdominal colostomy by the pull-through operation as first described by Babcock and popularized by Bacon. There is quite a trend in this country and abroad today to preserve the sphincter function, and this technic of proctosigmoidectomy permits radical removal of cancerous bowel and gland bearing areas, with a relative low mortality and morbidity. It is a method of choice to deal with the malignant adenomatous polyp situated high in the rectum where the sacrifice of the anal sphincter and the formation of an abdominal colostomy are not essential to cure. But in all cases where the lesion is located within six centimeters of the anorectal margin, no attempt should be made to spare the sphincters but rather a wide excision of levator muscles made. If any one operative procedure is to be used in the treatment of cancer of the rectum, it should be the abdominoperineal resection in one-stage as recommended by Miles.

### *Summary*

Surgery alone offers the only means of permanent cure for carcinoma of the sigmoid and rectum. Radium, x-ray and electrocoagulation therapy are at best only palliative measures. The different surgical procedures have been evaluated. Early recognition of this disease and early surgery for its eradication are essential.

### BIBLIOGRAPHY

1. Ochsner, Alton, and Hines, Merrill O.: *South. Surgeon*, 12:269, No. 5, (Nov.) 1946.
2. Bacon, Harry E.: *Surg., Gynec. & Obst.* 81:113, 1945. *Am. J. Surg.* 71:728 (June) 1946.
3. Lahey, Frank H.: *S. Clin. North America*, P. 528 (June) 1946.

4. D'Allaines, and de Vernejoul: J. de chir. Paris, 62:268, 1946.
5. Mahorner, Howard: Am. J. Surg. 123:866-76 (May) 1946.
6. Glover, Robt. P., and Waugh, Jno. M.: Surg., Gynec. & Obst. 82:434-48 (April) 1946.
7. Allen, Arthur W.: Surg., Gynec. & Obst. 82:490-91 (April) 1946.

## THE PREVENTION OF POSTOPERATIVE PULMONARY COMPLICATIONS

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The odds are about a hundred to one that each experienced surgeon and internist in the State of Georgia has had in the past year at least one patient in whom a serious postoperative pulmonary complication occurred. The purpose of this paper is to present the preliminary report on a method and technic for preventing postoperative pulmonary complications.

During the past two years Mr. Albert Brown and one of us (M.B.) have developed a device for the inhalation of various gases and aerosolized drugs. These may be given with or without positive pressure during exhalation or inhalation. Inhalation technic has proved to be so effective in the treatment of chronic bronchitis, bronchiectasis, asthma, pulmonary edema, atelectasis, and anoxia that we decided to use the technic routinely in the prevention of postoperative pulmonary complications.

We can anticipate a low percentage of pulmonary complications in doing elective, nonabdominal surgery without particular pre- and postoperative care. However, the group of patients we are especially interested in are those who undergo upper abdominal surgery, the old and debilitated patients such as those with broken hips and peripheral gangrene, those in whom surgery is required in spite of infection in the respiratory tract, those with incipient heart failure and those in whom early ambulation

cannot or is not practiced. In this group the risk of medical death postoperatively far outweighs the risk of surgical death on the operating table.

The main object of our pre- and postoperative technic is to minimize those factors which tend to precipitate pulmonary atelectasis, hypostatic pneumonia, pneumonitis, lung abscess and pulmonary embolism. The routine pre-operative care consists of restoring deficiencies in plasma proteins, vitamins, calories, fluid, and hemoglobin, of eliminating infection where possible by the use of antibiotics, and of improving the function of vital organs, such as the heart and liver. For example, oral sepsis is treated vigorously by having a nurse scrub the patient's mouth with sodium perborate three times a day. Chronic post-nasal drip is treated with prothricin nasal sprays and hot moist packs to the face. Any patient showing definite evidence of cardiac damage is digitalized even though no signs of cardiac failure are present. Large doses of multiple vitamins are always given since it is impossible to evaluate preclinical avitaminoses routinely. The patient is kept out of bed as much as seems feasible.

The twenty-four hours before surgery and the forty-eight hours after surgery are crucial periods on which our interest has been focussed. During these periods, the following factors seem primarily responsible for pulmonary complications:

1. Latent infections of the respiratory tract, whether oral, nasal, or bronchial.

2. Hypoventilation of the lungs. This may be due to depression of the respiratory center from drugs, such as morphine and anesthetics, or depression due to anoxia. Elevation and relative immobilization of the diaphragms secondary to pain, tympanites or diaphragmatic irritation may seriously impair pulmonary ventilation. Debility and prolonged bed rest tend to re-

strict the vital capacity of the lungs and finally bronchospasm and obstruction of the upper respiratory tract produce hypoventilation.

3. Retention of bronchial secretions. This may be caused by hypoventilation, by depression of the cough reflex following the use of drugs such as morphine and anesthetics, and by the drying out of bronchial secretions following the use of drugs such as atropine, morphine, and demerol.

4. Hypostasis of the pulmonary circulation. This is usually caused by failure to turn the patient often enough after surgery, to minor degrees of cardiac decompensation, to lowered plasma protein level in the blood, to retention of the sodium ion or to hypoventilation of the lungs.

5. Slowing of the peripheral circulation. This is produced by lowered cardiac output from shock or dehydration or cardiac anoxia or by inadequate muscular exercise of the extremities.

The judicious use of inhalation therapy seems to us a major advantage in combatting all five of the preceding factors leading to pulmonary complications. Aerosolized crystalline penicillin is inhaled into the respiratory passages in order to eliminate or limit latent infection there. A gaseous mixture of 5 per cent carbon dioxide and 95 per cent oxygen is inhaled in order to combat hypoventilation of the lungs, depression of the respiratory center and anoxia. Aerosolized neosynephrine is inhaled in order to prevent bronchospasm and to shrink down any edema of the respiratory mucosa. Aerosolized physiological saline is inhaled in order to prevent undue drying out of the bronchial secretions. The gaseous mixture and aerosols are given in conjunction with 4 centimeters of water positive pressure during the expiratory phase of respiration. Barach and his co-workers have proved that this is of value in

combatting pulmonary edema, and in forcing more oxygen across the respiratory epithelium into the blood.

Our inhalator is designed to accomplish the inhalation of aerosols and gases with the minimum cost to the patient since the machine automatically shuts off the flow of aerosol and gas during exhalation. The operation is so simple that the patient can give himself inhalations once he is well out of anesthesia. Furthermore, one may give artificial resuscitation with the inhalator if an emergency arises. If anoxia should become severe, 100 per cent oxygen is substituted for the carbon dioxide-oxygen mixture of gas. If atelectasis or obstruction of the respiratory tract occurs, a gaseous mixture of 80 per cent helium-20 per cent oxygen is used. This gaseous mixture is so light that it can be inhaled and exhaled without appreciable effort through partly obstructed bronchi or obstructed upper respiratory tract. In the same situation a heavier gas such as pure oxygen may require violent effort in order to breathe past the obstruction.

The routine medication and program which we are using is as follows:

A solution is ordered from the drug room containing 400,000 units of Penicillin "G", 10 cubic centimeters each of 1 per cent neosynephrine and physiologic saline. The inhalator is attached to a cylinder of 5 per cent carbon dioxide-95 per cent oxygen mixture of gases. The patient inhales 2 cubic centimeters of the mixed aerosol drugs four times on the day preceding operation, and again just before going to the operating room. Inhalations are resumed immediately after the patient returns from the operating room and are given for 5 minutes out of each hour for the first 24 hours postoperatively. During the second 24 hours, inhalations are also given for five minutes each hour, but only when the pa-



tient is awake. Inhalations are then continued at gradually increasing intervals of time until the patient becomes ambulatory. In conjunction with the inhalations, passive, and later active exercises of the lower extremities are given after each inhalation.

To date we have used this technic on 26 patients, and we are well pleased with the results. In this group there are 11 patients who had upper abdominal surgery consisting of 3 cholecystectomies, 2 gastric resections, 2 vagotomies with gastroenterostomies, 1 common duct exploration, 1 splenectomy, and 2 nephrectomies. There are 5 patients who had lower abdominal or rectal surgery consisting of 2 resections of the rectum for carcinoma, and 3 hysterectomies. Ten patients had other types of surgery consisting of 1 mid-thigh amputation for diabetic gangrene, 2 lobectomies for bronchiectasis, 1 brain tumor, 1 fracture of the neck of the femur in an aged person, and 5 thyroidectomies. It is obvious that the small number of cases in this preliminary report allows us to draw no conclusions as to the value of this technic as yet. However, the following brief case report illustrates why we have high hopes for it:

A 76 year old woman entered the hospital for treatment of wet gangrene of the toes and heel of one foot. She was found to have diabetes mellitus, arteriosclerotic and hypertensive heart disease, anemia, toxemia from infection and hypoproteinemia. Continuous 70 per cent alcohol packs to the gangrenous areas, insulin, transfusions, digitalization, penicillin intramuscularly, and vasodilating agents were given and the patient's condition improved somewhat. However, after about two weeks she became progressively worse. At this time laboratory studies showed a hemoglobin of 58 per cent, leukocyte count of 34,000, three plus albumin in the urine, a blood sugar of 248 mg. per cent and a plasma protein level of 6 mg. per cent. The electrocardiogram showed right bundle branch block and a bigeminal rhythm. Clinically, the patient seemed a relatively hopeless operative risk. Our routine preventative regimen was followed before and after Dr. Perrin Nicolson performed a mid-thigh amputation. On the second postoperative day signs of pleural effusion at the left base of the lungs posteriorly were noted and 100 cubic centimeters of pleural fluid were removed. Despite the critical condition of this patient, her temperature postoperatively never exceeded 98.3 degrees F.

A 66 year old woman entered the hospital with a history of 8 years progressive growth of a goiter and of exophthalmus for about a year. She had gradually become so weak that she could no longer perform simple house work and had lost 74 pounds in weight. Following lugolization and the use of thiouracil her strength and

weight had increased considerably. Thyroidectomy was performed at 8:30 A.M. By 2:00 P.M. the patient had not reacted and there was a large accumulation of mucus in the throat. When we saw the patient at 3:00 P.M. breathing was stertorous with laryngeal stridor from swelling and extravasation of blood into the cervical region. Aspiration of the mucus and the routine type of inhalations were started using penicillin, neosynephrine and carbon dioxide-oxygen gas. The patient became worse until the gaseous mixture was changed to helium and oxygen. Within two hours she had improved drastically and thereafter had no pulmonary complications.

### *Summary*

1. Some of the routine measures for preparing patients for surgery have been listed.

2. The inhalation of aerosolized penicillin, neosynephrine and saline was discussed in relation to the prevention of pulmonary complications.

3. A summary of two cases was given. In this preliminary report, the 26 cases treated pre- and postoperatively with an inhalation technic were insufficient to draw definite conclusions.

### EARLY AMBULATION: ITS ADVANTAGES IN 505 CASES

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In the past few years much has been written about early ambulation following surgery, yet when one visits the various hospitals in Georgia one finds only a few surgeons using early ambulation. With this in mind we have decided to relate our experiences and reasons for using early rising following surgical procedures.

That great pioneer surgeon of the South, Dr. Ephriam McDowell, visited his famous patient Jane Todd Crawford on the fifth postoperative day to find her making up her bed. Thus in reality the South began early ambulation and yet in spite of the writings of Ries<sup>4</sup> in 1899 and others, espe-

cially in Europe, we of the South have until the past few years kept our patients in bed for varying lengths of time. Our predecessors must have had good reasons for teaching us to keep people in bed following surgery. These reasons were supposedly to prevent complications such as wound disruptions, pneumonia, emboli, etc. However, as we have improved our methods of research and as we have viewed our clinical work through the eyes of this newer knowledge we have found to our great amazement that in actuality instead of preventing these complications we were favoring them by keeping our patients in the supine position.

Early ambulation actually improves and hastens wound healing. Liethauser,<sup>1</sup> Neuberger,<sup>20</sup> Powers<sup>19</sup> and Burch<sup>2</sup> have shown clinically and in experimental animals that keeping a patient in bed retards healing and likewise that early ambulation hastens wound healing due first to an increased blood supply, second to an increased lymph drainage, and third to a decreased atrophy of disuse. Burch<sup>2</sup> had but 3 recurrences in 919 early rising hernia patients, while Powers<sup>19</sup> reports no recurrences in 39 hernia patients who got up early, while he had 2 recurrences in 39 hernia patients who stayed in bed for 21 days. Burch<sup>2</sup> reports only one case of eventration in 2827 cases of abdominal surgery, this being in an elderly obese individual with intractable hiccough.

Pulmonary complications are markedly reduced. Cutler<sup>3</sup> reported that 4.5 per cent of all laparotomies develop some pulmonary complications. Christopher<sup>5</sup> and King<sup>6</sup> believe 10 to 20 per cent of all abdominal operations are followed by pulmonary complications. We believe this is a little high for the general run of people in Georgia. We know that it is for the Georgia Baptist Hospital where the vast majority of operations are done under pentothal-oxygen-curare anesthesia. The pulmonary complications are for the most part caused

by changed pulmonary physiology; first, reduction in diaphragmatic movement and splinting of the thoracic and abdominal musculature due to reflexes from the incision and traumatized areas; second, the inhibition of the cough reflex; third, bronchoconstriction from the above mentioned reflexes; fourth, excess amounts of mucus following anesthesia; and fifth, decreased vital capacity. A normal individual can inhale some 15 per cent more air in the standing position than in the supine position. This is dramatically proven in cardiacs who insist on the upright position. Churchill<sup>7</sup> has shown that the vital capacity is markedly decreased following operation and that this decrease is only overcome after the patient has returned to the upright position. This is theorized to be due a great deal to the weight of the abdominal contents pulling the diaphragm back to normal position. Corylas<sup>8</sup> pointed out that the horizontal position decreases the efficiency of the cough and the cough reflex. If the patient would cough they would get the excess mucus up which may block some bronchus or bronchiole. Meringas<sup>9</sup> reports only 13 minor pulmonary complications in 537 cases who were recovering from major surgical procedures with early ambulatory practices. Canavaro<sup>10</sup> reports an incidence of 2.7 per cent bronchopneumonia in early risers against 5.7 per cent in late risers, and 0.5 per cent atelectasis in early risers against 1.5 per cent in late risers. The reason for this is nicely shown by Mendelsohn in his review of the time of onset of pulmonary complications—50 per cent of all complications developed in the first 24 hours, 75 per cent within the first 48 hours and 90 per cent in the first 98 hours. The solution to this problem is to get the vital capacity, and thus the motion and physiology of the lungs back to normal at the earliest possible moment; in other words, early ambulation.

Oschner<sup>11</sup> points out that early ambulation markedly decreases the incidence of thrombophlebitis, phlebothrombosis and emboli. The incidence of these dreaded complications is far greater than most of us have been led to believe, for the simple reason that the only time we have usually diagnosed them is when they have been of major importance, and at times even when they have been overlooked. However, here again we believe that the incidence of these complications is less in the South than in the colder climes. Westdahl reports that 13 per cent postoperative patients coming to autopsy had emboli of some sort. Dock<sup>12</sup> reports that 5 per cent of all abdominal operations die with emboli, while Belt<sup>14</sup> and Reich<sup>15</sup> claim that in their experience venous thrombosis and pulmonary emboli occur in 1 per cent of all postoperative cases, in 2 per cent of all laparotomies and in 3 per cent of all laparotomies in the female. These are astounding figures. The reasons for thrombosis and therefore emboli in postoperative cases are multiple. Bancroft<sup>13</sup> pointed out that the clotting index of blood is increased 12 per cent in the postoperative period. De Takats<sup>16</sup> has postulated that following any major operation a clinical or subclinical state of peripheral-vascular failure develops with consequent hemoconcentration—this results in an increased blood viscosity and an increased tendency to intravascular clotting. Another factor which must play a part in this phenomenon is the increased amount of fibrinogen released following operative trauma. Oschner<sup>11</sup> has proven that bed rest, especially in a semi-Fowler position, causes a decreased rate of flow through the lower extremities, thus increasing the formation of thrombi, which in turn may cause the dreaded emboli. In view of these facts the various ways of preventing thrombosis and emboli are to first counteract the increased

clotting time by adding some anticoagulant such as heparin, dicumarol etc. (this is, however, a rather drastic step to do routinely); and second, the rate of flow can be increased thus preventing the blood from stagnating and clotting. This is done by moving the body and limbs and by taking deep breaths. This is easiest and best accomplished by getting the patient out of bed.

Patients require catheterization only occasionally with early ambulation. Again several factors are involved. There is a general decreased tone of the bladder following laparotomy as well as constriction of the sphincter due to the splinting reflex from the abdominal musculature. There is also a great psychologic barrier which has been built up since early childhood against urinating while lying down. To place these patients in the upright position causes movement of the abdominal musculature and reduced splinting reflex with relaxation of the sphincter and return to normal of the tone of the bladder, as well as the return of the force of gravity on the trigone to normal. McLaughlin<sup>17</sup> reports a reduction of urinary complications, catheterization, etc. from 21.9 to 0.29 per cent following early rising. Early ambulation is again the answer.

There is earlier return to normal function of the gastrointestinal tract in early ambulation with resultant less gas pains and less enemas, earlier feeding and a corresponding decreased body tissue loss.

It is a well known fact that the nitrogen balance is upset to the negative side by bed rest even in the well individual. This of course can be corrected by parenteral or dietary supplements to the usual intake. However, there is no known way to reverse the negative calcium balance which is brought about by bed rest. By placing a well patient in bed, by the second day the



urine Sulkowitch test becomes positive,<sup>18</sup> showing increased urinary calcium even in individuals with normal parathyroid metabolism and, if the bed rest is continued long enough, x-ray evidence of osteoporosis can be noted.

We are using a slightly modified Meyer closure of No. 20 cotton interrupted suture in the peritoneum and muscle, No. 32 alloy steel wire as figure-eight sutures in the fascia, several interrupted double zero chromic sutures in the fat as well as a subcutaneous running suture of double zero chromic and a running No. 60 black cotton in the skin. This gives a very accurate approximating closure which will withstand all pressure permanently.

We have employed early ambulation since Christmas Eve 1944 when a surprise Jap air raid ran postoperative patients to an air raid shelter instead of their waiting to be carried there on stretchers. We sit or stand our patients as soon as they recover from the anesthesia.

We have summarized our results from our private practice and while in the armed services as far as possible; many other cases, however, were done while in the service and their records are not readily available, yet we are reporting the results on 505 cases.

We have tabulated the minimum and maximum of the various factors as well as the average in each general classification. The gynecologic laparotomies include all types of intra-abdominal gynecologic operations—panhysterectomies to sterilization—while the vaginals include all types of repairs of the perineum and vagina to simple cauterization of the cervix.

The gallbladder operations include all operations on the biliary tree, while the stomach and intestinal include vagotomies (gastric vagectomy), resections, gastroenterostomies, etc., except of course appen-

dectomies. The hernia series includes all types of hernia, recurrent as well as primary. The thyroid-neck classifications include thyroidectomy, parathyroidectomy, radical neck dissections, excision of branchial cyst, ligation of carotid artery, tracheotomy and incision of abscess of neck. The rectal group contains hemorrhoidectomy, excision of anal fissure, fistula, excision of polyp as well as pilonidal cysts.

This miscellaneous group contains practically all other types of operations—amputations, removal of shrapnel, plastic repairs, ligation of veins, aneurysmorrhaphies, tendon repairs, etc.

As will be noted in the summary table, the average time these people were sitting on the side of the bed was 1.6 days, while the average time which they stood by the side of the bed was 2.6 days. These figures are later than we are now employing, for these included some of our first cases when we were a little reluctant to get people up. We now try to stand our patients on their first day. The average of the highest postoperative temperature was 100.2 degrees F. The average number of postoperative hypodermics is amazing—1.9 per patient. These people have less pain because of less postoperative distention, less weariness from lying in one position, less posttraumatic stiffness, etc. The gastrointestinal tract was able to take food on 1.5 postoperative day. Because they were taking food so early, the average number of clyses was cut to 0.7 per patient. This may be slightly misleading, for all our patients are routinely given a clysis while on the operating table, and another 1000 c.c. are allowed to follow that night (we operate mostly in the afternoon) so that the above figure of 0.7 was obtained by counting the clyses required after the operative day. This was done to simplify the statistics in order that intravenous therapy to combat shock or

anemia, which would cloud the picture, would not have to be encountered. All of our patients receive cool water freely after they react from the anesthetic unless individually contraindicated. By standing or sitting these people, the postoperative catheterizations fell to 0.5 times. The total postoperative stay in the hospital averaged only 6.4 days. This decreases the cost of hospitalization remarkably as does the reduction of catheterization and clyses and it also increases at least 100 per cent the total number of patients cared for by a certain number of beds over any given period of time.

It is our feeling that one should either practice early ambulation on a patient or not; i.e., the patient should be gotten up early, not later than the third day, or he should be held down until any clot which may have formed is tightly attached to the vein in which it forms. In other words, we feel that to temporize and allow the patient up on the fifth or sixth day is more hazardous than earlier or later. We would like to suggest to you who have not tried early ambulation, that you get part of your patients up early, start on your sturdy adults with less serious operations and feel your way along.

There are certain contraindications to early ambulation; namely, shock, debility, serious infection and other complications which in themselves require bed rest. We believe in large doses of vitamin C to hasten tissue repair and the use of supplementary protein therapy to control the negative protein balance.

We have had but two wound infections which have drained after dismissal from the hospital; neither was of serious consequence. This is eight-tenths of one per cent (0.8) of the total surgical cases. We have had to remove none of the deep non-absorbable sutures. We have had no postoperative

hernias of which we are aware. We have been watching closely for postoperative thromboses and emboli and have had none in this series. However, in the past year in another group of patients not afforded early ambulation for various reasons, we have seen three patients with emboli; one was fatal before the inferior vena cava could be ligated; one was a bilateral amputation whose inferior vena cava was ligated with uncomplicated recovery. We have been watching for postoperative pneumonia and atelectasis and have had none exhibited clinically or by increased temperature. We have had but two patients that were not enthusiastic about early ambulation from the very first; these were convinced of its value and by the end of the second day they were up. We have noticed a great difference in the mental attitude in patients following early ambulation—it is a great morale booster.

We would hesitate a long time before returning to the old method with its postoperative hypodermics, catheter trays, bed pans, pneumonia and emboli. Now our

Table 1. Showing Progress, Medication and Treatment of Patients Following Early Rising After Surgery

	Laparotomies (gynecologic) 84 CASES			Vaginal 13 CASES		
	Min.	Max.	Avg.	Min.	Max.	Avg.
Age .....	19	64	31	21	67	35
Sitting .....	1	3	1.7	1	2	1.1
Standing .....	1	4	2.4	1	2	1.3
Temperature in degrees F.....	100.4	100.2		101.4	99.1	
Hypodermics ..	0	6	2.2	0	2	0.3
Food .....	1	3	1.7	1	1	1.0
Clysis .....	0	6	0.9	0	0	0.0
Catheterizations	0	4	0.8	0	1	0.1
Hospital Days..	5	12	7.3	1	5	2.0

	Gallbladder 26 CASES			Stomach or Intestine 18 CASES		
	Min.	Max.	Avg.	Min.	Max.	Avg.
Age .....	25	67	43	31	62	44
Sitting .....	1	3	2.1	1	3	2.0
Standing .....	1	4	3.1	2	5	3.6
Temperature in degrees F.....	101.4	100.1		102.2	101.3	
Hypodermics ..	0	4	2.1	1	7	3.6
Food .....	1	2	1.8	2	5	3.2
Clysis .....	0	4	2.1	4	20	8.0
Catheterizations	0	3	0.7	0	3	0.5
Hospital Days..	5	14	7.1	7	10	7.5

1 wound infection

	<i>Hernia</i> 84 CASES			<i>Appendix</i> 110 CASES		
	Min.	Max.	Avg.	Min.	Max.	Avg.
Age .....	18	65	42	9	60	24
Sitting .....	1	3	2	1	2	1.7
Standing .....	1	4	3.5	1	3	2.4
Temperature						
in degrees F....		101.4	100.1		101.3	100.0
Hypodermics ..	1	3	2.3	0	4	0.8
Food .....	1	2	1.3	1	3	1.7
Clysis .....	0	1	0.7	0	2	0.2
Catheterizations	0	4	0.6	0	4	0.2
Hospital Days..	5	14	10.3	3	7	5.4

1 wound infection

	<i>Thyroid-Neck</i> 48 CASES			<i>Miscellaneous</i> 70 CASES		
	Min.	Max.	Avg.	Min.	Max.	Avg.
Age .....	18	65	36	4	66	41
Sitting .....	1	3	1.5	1	3	1.8
Standing .....	2	4	2.6	1	4	2.7
Temperature						
in degrees F....		103.2	101.3		102.2	99.6
Hypodermics ..	1	3	1.6	0	3	0.8
Food .....	1	2	1.2	1	3	1.3
Clysis .....	0	4	0.9	0	5	0.3
Catheterizations	0	3	0.2	0	3	0.2
Hospital Days..	4	10	5.5	1	14	5.1

	<i>Rectal</i> 82 CASES		
	Minimum	Maximum	Average
Age .....	18	64	39
Sitting .....	1	2	1.2
Standing .....	1	3	2.1
Temperature		100.2	99.2
Hypodermics ..	0	6	2.5
Food .....	1	2	1.2
Clysis .....	0	3	0.2
Catheterizations	0	6	0.9
Hospital Days..	4	10	6.4

#### Summary 505 CASES

Sitting .....	1.6 days
Standing .....	2.6 days
Temperature .....	100.2 degrees F.
Hypodermics .....	1.9 times
Food .....	1.5 days
Clysis .....	0.7 times
Catheterizations ..	0.5 times
Hospital Days .....	6.4 days
Wound Infection ..	0.8 per cent
Pneumonia or Atelectasis	0 per cent
Thromboses and Emboli	0 per cent
Eventration .....	0 per cent

patients are more comfortable and usually by the third or fourth postoperative day are asking, "Why can't I go home, I'm caring for myself here, I can do the same at home?"

#### Conclusions

1. The reasons for using early ambulation have been reviewed.

2. A tabulation has been presented of our results with early ambulation showing a marked decrease in pulmonary, vascular, gastrointestinal, urologic and wound complications.

3. The decreased postoperative hospital confinement has been reduced, resulting in less cost to the patient and more patient-beds for the hospital.

4. Obviously this method cuts nursing care of the patient to a minimum, allowing our over-worked nurses to aid the more seriously ill.

5. It is felt that we might be held in malpractice if we returned to the old type of postoperative treatment. This is a marvelous advancement and we recommend it to all who do accurate wound approximation.

#### BIBLIOGRAPHY

1. Leithauser, D. J. et al.: Early Rising and Ambulation Activity After Operation, *Arch. Surg.* 42:1086, 1941.
2. Burch, J. C., Fischer, H. C.: Early Ambulation in Abdominal Surgery, *Ann. Surg.* vol. 124, (Oct.) 1946.
3. Cutler, E. C. et al.: Postoperative Complications, *Proc. Internat. Assemb. Inter-State Post-Grad. M. A. North America*, p. 232, 1941.
4. Ries, E.: Some Radical Changes in After Treatment of Celiotomy Cases, *J.A.M.A.* 33:454 (Aug) 19, 1899.
5. Christopher, F.: Textbook of Surgery, ed. ed. 3, p. 1712, Philadelphia, W. B. Saunders Company, 1943.
6. King, D. S.: Postoperative Pulmonary Complications, *J.A.M.A.* 100:21, 1933.
7. Churchill, E. D. et al.: Reduction in Vital Capacity Following Operation, *Surg., Gynec. & Obst.* 44:483, (Aug.) 1927.
8. Coryloss, P. N.: Postoperative Pulmonary Complications and Bronchial Obstruction, *Surg., Gynec. & Obst.* 50:795, 1930.
9. Meringas, K.: Immediate Ambulation After Operation, *Zentralbl. f. Chir.* 60:553, 1933.
10. Canavaro, Kim.: Review of 401 Cases of Early Ambulation, *Bull. New York Acad. Med.* (May) 1946.
11. Oschner, A.: Venous Thrombosis, *J.A.M.A.* 132:827-833 (Dec. 7) 1946.
12. Dock, Wm.: Conferences on Therapy Use and Abuse of Bed Rest, *New York State J. Med.* 44:724, 1944.
13. Bancroft, F. W. et al.: Postoperative Thrombosis and Emboli, *Am. J. Surg.* 26:648, 1945.
14. Belt, T. H.: Autopsy Incidence of Pulmonary Embolism, *Lancet* 1:1259, 1939.
15. Reich, C. et al.: Dicumarol in Prevention of Postoperative Thrombosis and Emboli, *Surgery* 18:238-243, 1945.
16. De Takats, G.: Postoperative Thrombosis and Emboli, *Illinois M. J.* 79:25, 1944.
17. McLaughlin, C. W.: Postoperative Urinary Retention, *U. S. Nav. M. Bull.* 42:1025, 1944.
18. Beard, Donald: Personal Communications.
19. Powers, J. H.: *J.A.M.A.* 125:1079, 1944.
20. Neuberger, B.: Early Postoperative Walking. I. The Influence of Exercise on Wound Healing in Rats. *Surg.* 13:692, 1943.

#### VETERANS' NEWS

More than 90,000 patients were in Veterans Administration hospitals on the first of March, 1947. An additional 14,000 were in non-VA hospitals furnishing beds to veteran-patients on a contract basis.

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Residencies in physical medicine approved by the American Medical Association have been or are being established in Veterans Administration hospitals in Richmond, Va., Minneapolis, Minn., Denver, Colo., New Orleans, La., Los Angeles, Cal., and Portland, Ore.

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Of the 42,031 veteran-patients admitted to Veterans Administration hospitals during February, 1947, 5,128 had neuropsychiatric disorders, 1,839 were tuberculosis cases, and the remaining 35,114 were general medical and surgical patients.



## A REPORT OF THE CRIPPLED CHILDREN'S SERVICES OF THE STATE WELFARE DEPARTMENT

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These crippled children's services were inaugurated in 1938. The object is to make available adequate medical services and to care for any crippled child from infancy up to 21 years of age. The program is financed jointly by the Federal Government and the State of Georgia. This program was placed by the State Legislature in the Welfare Department. Since the department has been unable to obtain a satisfactory medical man as full-time director of the Crippled Children's Services, Miss Helen Carr, a medical social worker and orthopedic nurse, has done an excellent job as acting director. I am medical consultant. An effort was made to have the Crippled Children's Service transferred to the Department of Health, but this would require an act of the Legislature, and the effort did not succeed.

It was estimated that there were more than 7,000 crippled children in the State although no adequate survey has been made. We now have 5,178 cases registered. To care for these cases we now have 9 orthopedic surgeons, 2 plastic surgeons, 1 doctor of physical medicine, and 1 pediatrician. These men are all members of this association, and are all specialists certified by their respective boards. We also have 1 medical social worker, 1 physiotherapist, and 5 orthopedic nurses. Two clinics per month are held in Atlanta by each of the following orthopedic surgeons: Drs. Jos. H. Boland, Fred G. Hodgson, S. H. Jernigan, Robt. P. Kelly, Calvin Sandison, and Philip Warner.

Clinics are held in Augusta by Dr. Peter

Wright, in Columbus by Dr. Ed Irwin, and in Savannah by Dr. Bert Brown. Plastic surgery is done by Dr. Wm. G. Hamm and Dr. Frank Kanthak, and Dr. Robert Bennett is in charge of acute poliomyelitis.

In 1946 in these clinics 1,188 cases were examined—474 were sent to hospitals for treatment, and 279 were cared for in Aidmore Home for Cripples, Atlanta. Practically every type of cripple has been seen, the largest numbers being caused by infantile paralysis, cerebral spastics, congenital deformities, such as club feet, hare lip, cleft palate, polydactylism, syndactylism, contractures from burns, old fractures with deformity, arthritis, acute and chronic; tuberculous bone and joint lesions, osteomyelitis, scoliosis, etc.

The cost of this program for 1946 was \$201,178.75. Federal funds were \$108,099.64 and State funds \$93,079.11. We are planning to extend our services to cover cases of rheumatic fever with heart involvement, and congenital heart cases. We feel that the cardiac cripple should receive the same care as other cripples. We expect to start some case-finding clinics in order that no crippled case may be overlooked.

We also would like to start a program of prevention, for many of these cases were caused by carelessness, and improper care. Our greatest need at present is for a convalescent home for crippled Negro children.

In this brief summary, I wish to invite your attention to the Crippled Children's Services and to ask the cooperation of each one of you. Whenever you see or hear of a crippled child, we wish you would send in the name and address to us at the State Capitol Building. If he or she is not on our register, he or she will be placed on the register and promptly investigated. We have the doctors, the facilities, and the funds to care for these children. We wish

you to help us see that no crippled child in the State is neglected. Any child, without regard to his financial standing, may be brought to our clinics for examination and diagnosis. There he or she will be seen by an orthopedic surgeon, a pediatrician and a dietitian. Then he or she will be seen by a social worker who will sympathetically investigate the financial status of the family. If unable to pay a private physician, he or she will be cared for by the Crippled Children's Services.

### ENDOCRINE COMPLICATIONS OF THYROID SURGERY

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In this short talk we propose to present briefly the subject of the endocrine complications of thyroidectomy, a group of conditions occurring regardless of the indications for the operation, and which generally receives minimal attention from a diagnostic point of view during the post-operative course. This set of complications, comprising dysfunctions of the thyroid, parathyroid, and pituitary glands, includes: (1) the ophthalmopathies; (2) the parathyroid deficiency states; and (3) hypothyroidism. These are conditions which require more than the usual diagnostic attention, tend to be masked or insidiously progressive in their early stages, and for this reason require careful comparisons between pre- and postoperative findings. For the purpose of ease in early detection we will propose, under each condition, a set of baseline pre-operative observations for use in later comparisons.

#### *The Ophthalmopathies*

The pathogenesis of eye changes occur-

ring with thyroid diseases or after thyroidectomy are, at present at least, considered to be definitely within the confines of endocrine dysfunction. The major differences of opinion on this subject are centered about the relative roles of the thyroid hormone and of the thyrotropic factor of the anterior pituitary in the production of the ophthalmopathies of thyrotoxicosis. However, when considering the post-thyroidectomy eye changes as a group (excluding those occurring definitely as a part of the residual thyrotoxicosis), it is the general consensus of opinion that they are pituitary in origin.

In the presence of eye changes of the pituitary type in a candidate for thyroidectomy, chances of serious progression are greatly increased; the risk is considerably smaller when pituitary signs are absent. For this reason, such eye signs must be classified as precisely as possible during the preoperative period. To aid in recognizing these changes, the following classification, which breaks the group down into (1) the pituitary type, (2) the thyroid type, and (3) the mixed type, is probably the safest and most practical, although not necessarily perfect:

1. The pituitary type. Changes produced apparently by an excess of the thyrotropic factor of the anterior pituitary, and capable of being reproduced in laboratory animals regardless of the status of the thyroid gland or of the sympathetic innervation of the eyes. It is in these cases that the effect is seen of the release of the apparent inhibitory action of the thyroid hormone on the thyrotropic factor of the anterior pituitary. These are the changes which so often become malignantly progressive following medical or surgical thyroidectomy.

- a. Edema of the eyelids.
- b. Edema of the orbital contents.

- c. An exophthalmos which cannot be reduced to any appreciable degree by simple finger-tip pressure, and in which gross increase in the intraorbital contents is evidenced by the fact that the eyeball cannot be moved passively within the socket.
- d. Ophthalmoplegia.

2. The thyroid type. Changes produced apparently by excess of the thyroid hormone, acting in conjunction with sympathetic stimulation of the eye. In this category are:

- a. Lid retraction and lid lag.
- b. An exophthalmos which can largely be reduced by simple finger-tip pressure on the eyeball, and in which the eyeball can be moved passively within the socket, thus demonstrating no gross increase in intraorbital contents.
- c. An ophthalmoplegia usually of lesser proportions than that occurring in the pituitary type.

3. There is finally a mixed type of eye change, incorporating features of both the thyroid and the pituitary types. It is this group which causes most of the differences of opinion concerning pathogenesis. However, from a practical point of view the occurrence of pituitary type of eye changes gives this type its importance.

The postoperative problem is one of recognizing the usually insidious changes which may occur, either in the normal eye or in one already affected. For purposes of comparison, the following points should be recorded in as objective a manner as possible:

- 1. The presence and approximate degree of lid retraction.
- 2. The presence and approximate degree of extraocular motor palsies.
- 3. The presence, degree, and extent of involvement of edema of the eyelids, conjunctivae, or intraorbital tissues.

4. The presence and degree of exophthalmos. If exophthalmos is present at all, it would perhaps be wisest to have its extent recorded objectively by means of exophthalmometer readings.

5. The mobility of the eyeball to finger-tip pressure.

Based on these preoperative observations, repeated careful objective checks should be made on all points during the first six months of the postoperative period. If this appears to be too extended a length of time, it is well to remember that progressive malignant exophthalmos may arise as much as 2 years following thyroidectomy, although this, of course, is quite rare. In general the dangers arise during the period of fall of the body's thyroid level, with concomitant removal of its inhibitory action on the anterior pituitary. With any indication of the appearance or progression of eye signs, immediate therapy is indicated. Treatment consists of the administration of thyroid extract to the limit of tolerance, until regression in eye signs is complete or until a permanent halt in the process is apparent. Following this, a gradual diminution in dosage may be made to levels compatible with a normal metabolic rate. As an adjunct to this treatment, x-ray therapy to the pituitary gland may be tried in an attempt to reduce generally its activity.

#### *Hypoparathyroidism*

The early recognition of hypoparathyroidism following thyroidectomy is of importance on two counts. In the first place, it is advantageous to intercept the condition before the patient is subjected to some of its more unpleasant manifestations. In the second place, it is only by detecting the larval or subtetanic cases that one may avoid dismissing a patient with latent or chronic hypoparathyroidism, a condition which would probably be lost subsequently



under the multitude of vague and misleading symptoms characterizing it.

Considering only the larval or subtetanic state (because in a patient with spasmodophilia the diagnosis is fairly obvious), there are three items to be considered and followed: (1) The occurrence of paraesthetic sensations, mainly of the hands and feet, occasionally of the face, scalp, and other parts. (2) The Chvostek reflex, which consists of contraction of the facial muscles on mechanical stimulation of the facial nerve. (3) The Trousseau reaction, which consists of a carpal spasm induced by occlusion of the brachial artery. These findings occur well in advance of frank spasmophilia.

Unfortunately, all three may occur in the individual with intact parathyroids, in the presence of a marked nervous state. In this condition the Chvostek reflex is often markedly positive. Equally important is the presence of a hyperventilation syndrome occurring in these same individuals. This syndrome, which is liable to occur in the emotionally tense period immediately postoperatively, will almost invariably simulate the paraesthetic sensations which occur in latent hypoparathyroidism. It will frequently produce a positive Chvostek reflex where none was present previously, and on occasion it may produce something simulating a positive Trousseau reaction. In any case of latent parathyroid tetany it may be counted upon to exaggerate all signs and symptoms, and produce a misconception as the severity of the case.

In view of this, it is essential to set down a certain base line of observations during the preoperative period, to be used for postoperative comparisons:

1. The occurrence of paraesthetic sensations should be noted pre-operatively, should be correlated with periods of exceptional tension, and should be compared with sensations occurring on forced hyperven-

tilation of room air.

2. The Chvostek and Trousseau reactions should be tested under normal conditions, and again under the influence of forced hyperventilation of room air.

With these observations recorded for future use, repeated checks for paraesthesiae, Chvostek reflex, and Trousseau reaction should be made during the postoperative period. On eliciting anything in the line of a suspicious finding, a determination of serum calcium level may settle the issue. Where this laboratory procedure is unavailable or unreliable, careful observation of the progress of the signs, and the effects of the removal of any element of hyperventilation by rebreathing of expired air, will probably be equally diagnostic.

When the diagnosis is made in the subtetanic phase it is seldom necessary to resort to any dramatic therapy. Calcium salts should be administered intravenously, in the form of a 10 per cent solution of calcium gluconate in 10 to 20 c.c. doses every 1 to 4 hours, until signs and symptoms disappear. Following this, daily oral doses of about 6 grams of calcium lactate, supported by from 100,000 to 400,000 USP units of vitamin D, will usually serve to maintain the blood calcium level if the case is not too severe. Failure of this method is an indication to add dihydrotachysterol to the treatment program. This may be further supported by instituting a low phosphorus diet. Dihydrotachysterol itself should not be considered the medication of choice, especially if it is to be administered over any extended length of time, because of its pharmacologic action of mobilizing calcium principally at the expense of bone. The use of parathormone is outdated.

In any case of latent parathyroid deficiency diagnosed and treated in the early postoperative period, its transient or permanent nature must be proven definitely. After the

convalescent period, the treatment may be discontinued and results noted. Suspension of treatment for about one week should be sufficient to reproduce signs of latent tetany if the condition is permanent.

### *Hypothyroidism*

The detection of hypothyroidism post-operatively is a relatively simple affair if the more objective signs of the condition are relied upon, and if the textbook picture of myxedema is not expected. A large percentage of moderate cases of hypothyroidism are masked by the development of a tension state, probably brought about by the discrepancy between the patient's waning mental and physical energy, and his self-expectations. This produces in the majority of moderate hypothyroids a picture not often far, in its superficial aspects, from thyrotoxicosis.

The essentials in establishing this diagnosis in the mild to moderate case are:

1. The lapse of a sufficient length of time postoperatively for the condition to reach its full proportions. One should disregard possible symptoms of hypothyroidism for about 6 weeks, following which the question may be settled once and for all.

2. A disregard for nervousness, anxious facies, profuse sweating during the examination, startle-reactions, tachycardia, hyperactive reflexes, dilated pupils, and all the various stigmas of autonomic imbalance. The presence of these signs are of no importance in the diagnosis.

3. The presence of a noticeably decreased tolerance for cold.

4. A noticeable slowing in the rebound of the tendon reflexes, most frequently observed in the ankle jerks.

5. An elevation in the blood cholesterol level. If this is to be a true indication, it will have to be divorced from the effects of exogenous cholesterol. Such effects may be minimized by keeping the individual on a low cholesterol intake for about 1 month

prior to the test.

6. Finally, the basal metabolic rate.

Notes on the above points should be made pre-operatively, and as objectively as possible. About 6 weeks following thyroidectomy, a general recapitulation and comparison of these same points will permit an adequate diagnosis to be made. In further follow-up, the effects of thyroid administration may be checked conveniently and with minimal laboratory work, by careful use of reflex rebound speed and the status of cold tolerance. If the patient continues to be maintained on a low cholesterol intake, occasional examinations of the level of blood cholesterol will render more accurate results than the less convenient basal metabolic rate.

### *Summary*

A short review of the endocrine complications of thyroidectomy has been presented. The early recognition of these states, and their recognition in mild to subclinical degrees, requires comparison of the post-operative findings with a suitable set of pre-operative observations recorded for this purpose.

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## MORTON'S TOE SYNDROME

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*Atlanta*

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The purpose of this presentation is to call to your attention a very painful and distressing condition, for which little could be done in the past but which can now be cured by a simple operation.

Thomas G. Morton<sup>1</sup> of Philadelphia described in 1876 a "peculiar and painful affection of the fourth metatarsophalangeal articulation." He ascribed the cause of the pain to the pinch of the lateral plantar

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nerve that supplies the fifth and the lateral portion of the fourth toe. We know now that it is not a pinching of the nerve and that it is not the branches of the lateral plantar nerve which are involved, but the branches of the most lateral division of the medial plantar nerve which supply the medial portion of the fourth toe and the adjacent surface of the third toe.

He treated the condition by hollowing out a depression in the shoe under the head of the fourth metatarsal, padding the foot, and trying firm soles and wide shoes. These measures failed in the severe forms of the condition. For these cases he excised the metatarsophalangeal joint and the surrounding soft tissues, including "the nerves distributed about the joint".

Two of Morton's 15 cases were doctors. The others were ladies. Dr. M. W. Alison of Hagerstown, Md., described his own case as follows. "My suffering has been beyond all comprehension: very often I have been compelled to jump from my buggy, or stop while walking, remove my boot, which has always been of ample size, apply ligatures to the limb or foot, use hypodermic injections of morphia, frictions, or call upon some one to assist me by standing on the foot". His joint and entire toe and surrounding nerves were amputated by Morton with complete relief.

Morton said, "From the number of cases which have been observed it would appear that the affection is not so uncommon, only that, as a distinct disease, it has not heretofore been noticed."

The next reference to this condition to be found in the literature of that time is nine years later. Mills<sup>2</sup> in lecturing to neurologists on painful foot conditions mentions it. There are three references in *Lancet* in 1889 to the work of Dr. Auguste Pollosson<sup>1</sup> of Lyons, France, who thought the condition was due to a laxity of the transverse metatarsal ligament.

Bradford<sup>4</sup> in 1891 and Guthrie<sup>5</sup> in 1892 confirmed the findings of Morton. Guthrie, who apparently did not know of the work of Morton, gives the following description of his own case: "After a long day on duty as hospital dresser, I walked through the wet streets to the opera. The theatre was crowded, and I had to stand throughout the performance. Towards the close I suddenly felt most severe shooting and burning pain in the fourth toe of my left foot. The boring of a hot iron into the flesh might have caused similar pain. It extended up the nerves to the outer side of the foot and into the sciatic, with a numbing, sickening sensation. I limped home with dismal misgivings lest I had fallen a premature victim to gout; but on taking off my boot I discovered that the last phalanx of the fourth toe was overextended, whilst the head of the second phalanx was slightly displaced downwards. Reduction caused a sharp twinge of pain, followed by immediate relief. From this time for many months I was constantly liable to these attacks of pain, especially in hot, damp days, after standing or walking for any length of time. I learned to reduce the dislocation and obtain relief by treading heavily on the empty part of the toe of my left boot with the heel of my right, and then forcibly drawing the left foot back within the boot, and the same time elevating the toes against the 'uppers'. Both the displacement and the reduction were accompanied by a distinct click. This manœuvre became necessary with more and more frequency, and the pain increased in severity until I had serious thoughts of having the toe amputated or the joint resected." He overcame his trouble by wearing a broad boot.

Osborne<sup>6</sup> in 1895 cured a very severe case by excision of the joint. Tubby<sup>7</sup> in 1896 reports four cases, and Robert Jones<sup>8</sup> in 1897 gave a good description of this condition. Together<sup>9</sup> in 1898 they gave the



most exhaustive account of this condition in a 32 page article. This article gives a bibliography collected by Morton and contains 38 references. They thought that the condition was due to pressure on the nerves, but not to pinching between the bones. They almost stumbled on the solution of the condition in the report of one case.

"Case XXIV—Fibroma of plantar fascia, giving rise to symptoms of metatarsalgia. Miss B., aged 26 years. Complained of great pain over toes, which often involved removal of boot and limited walking. Sometimes pain was acute. There was no history of injury. Pain and partial disability had occurred for twelve months. In character very like metatarsalgia. Pain sometimes paroxysmal, often relieved by lateral pressure. Fibroma found on foot.

This appears to us to be a very interesting example of the painful effect of pressure, simulating accurately, as it does the commoner variety of Morton's foot. There was no flat-foot, and removal of the growth was quite effective."

Nothing new was discovered about this condition for the next forty years. Betts<sup>10</sup> of Australia, in 1940, reported that some years previously he had a patient who showed such definite signs of neuritis that he explored the nerve and found a neuroma of the fourth plantar digital nerve. He reported ten cases he had done and nine done by colleagues. He concludes: "Morton's metatarsalgia is a neuritis of the fourth digital nerve with a pronounced neuroma in all cases. It is intractable to all mechanical treatment. The operation of neurectomy is simple, rapidly effects a permanent cure, and is not so mutilating as removal of the fourth metatarsal."

McElvenny<sup>11</sup> of Chicago, in 1943, first called attention of American orthopedists to this condition when he reported eleven cases in which he removed a neurofibroma and completely relieved the patients.

Swart,<sup>12</sup> after hearing this report, published a case report he had done on Nov. 11, 1942, in which he was resecting the nerves on the dorsal and plantar surface of the foot to relieve pain, and "found that in the nerve running to the third metatarsal bone there was a firm, glistening, white tumor mass the size of a large pea. This

was thought to be a neuroma and was excised." The patient made a complete recovery.

Baker and Kuhn<sup>13</sup> confirmed the finding of nerve tumors and added 11 more patients, and a report on the pathology. King<sup>14</sup> gives an account of the pathology, as do Bickel and Dockery.<sup>15</sup> They find that it has "its pathologic basis in a tumefactive perineural fibrosis of the fourth digital nerve of the foot. Degenerative as well as proliferative nerve changes along with neural and perineural edema are additionally present."

In calling your attention to Morton's toe syndrome, I would like to analyze the signs and symptoms of nine patients in order to identify this syndrome and separate it from the other varieties of metatarsalgia.

Metatarsalgia may be classified as follows:

1. Traumatic.
2. Inflammatory.
3. Static.
  - a. Relaxation metatarsalgia.
  - b. Compression metatarsalgia.
  - c. Morton's toe syndrome.

Metatarsalgia refers to pain beneath the metatarsal shafts or heads. This may be due to a number of causes. Rare conditions, as Kohler's disease and March foot, may be omitted. So will traumatic and arthritic conditions.

In the static variety there may be congenital abnormalities of the foot, as metatarsus primus varus.

The foot may be weakened by recent illness, or overloaded by a rapid increase in body weight. This throws a strain on the ligaments of the transverse arch and pain results. The pain is of a constant burning character and is described as being like a toothache. This is "relaxation metatarsalgia", and can be helped by lateral compression which relieves the strain on the stretched ligaments.

When the metatarsal heads become

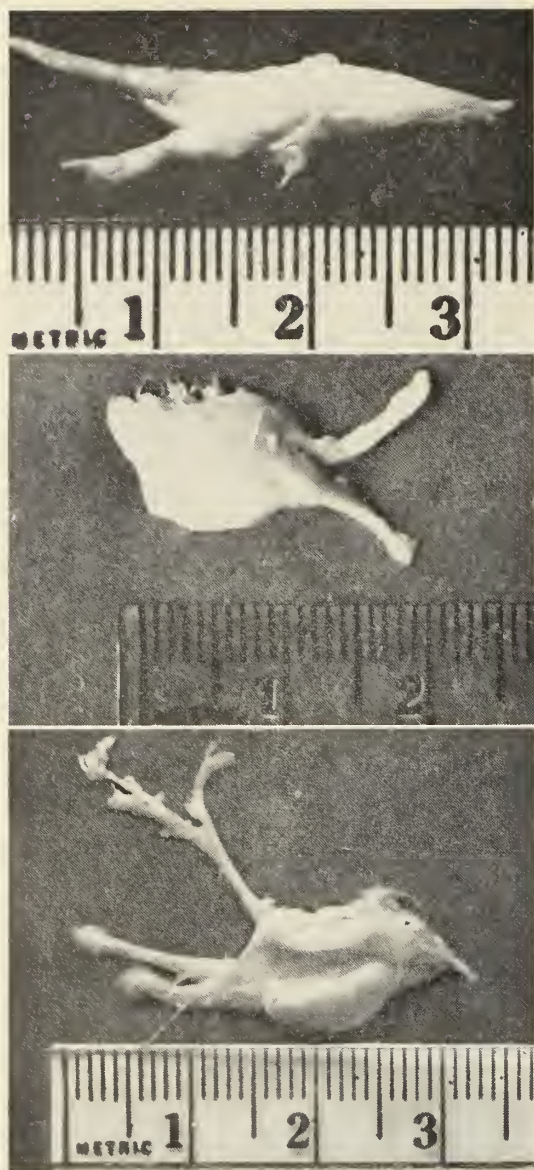


Figure 1  
Three of the tumors removed. The two nerves went to the third and fourth toes. The tumor occurs where the nerves come together under the heads of the metatarsals.

crowded together by wearing narrow shoes the digital nerves are compressed, and we have a "compression metatarsalgia". In these cases the pain is said to be due to pressure on the plantar nerves. These cases can be helped by wearing broader shoes and by wearing a support under the metatarsal arch.

The Morton's toe syndrome presents an entirely different set of symptoms. The reason for this is that this condition is caused by a tumor involving the lateral branch of the medial plantar nerve. The

tumor is a neurofibroma about the size of a large pea.

All nine of the patients were ladies, and all had the pain in the third and fourth toes. Betts had an equal number of men and women.

When asked to describe the nature of the discomfort, some said the entire foot hurt them, or that all of their toes were "killing" them. However, on more careful questioning it was only the third and fourth toes which hurt, and usually the fourth toe is mentioned first. When asked where the pain begins, five said in the third and fourth toes or between them at their base. In two the pain began under the toes in the ball of the foot. In most cases the pain extended from the toes to the dorsum of the foot. In one case the pain is said to have extended to the knee, and one said when it was severe the pain extended to the hip. Two complained of the toes being numb and feeling "like they are dead."

These ladies talked so freely of their discomfort that at times they gave the impression that they were exaggerating their symptoms, but most of them described their pain as being "terrible". When asked to describe the pain further, one said it felt "like a nerve being pinched between the bones", another "like a vise squeezing the foot". Others said: "like something under the toe", "like a cord under the toe", "like a string tied around the base of the toe".

The pain was sharp and sticking and came in attacks. Sometimes they were troubled for two or three days and then would have no further trouble for a long time. Several claimed the pain was so constant it made them extremely nervous. Others actually cried from the pain. One said the pain was so severe it would "take away my breath" and cause her to fall on the street. When questioned further, people actually did have to pick her up. Betts mentions one



case who fainted from the severity of the pain.

Most of them said the pain came on only when wearing narrow-toed, high-heel shoes. The pain did not come on while walking barefooted, so they got relief by going barefooted at home and by wearing broad shoes, usually some of the sport or play shoes. Some found that if they could walk by moving the ankle and without moving their toes, they could avoid the attacks of pain. Stepping on a pebble would start the pain. One of my patients had a severe attack while taking a bath, and another found that soaking her feet in hot water brought on an attack of pain. The earlier writers found that heat increased the pain.<sup>4 7</sup> King found the pain to be worse in going into a warm room, and Bickel found the pain to be worse in summer.

The most characteristic finding in all these cases is the irresistible desire to remove their shoes. The pain is so severe when it strikes, one lady said she had to stop her car and remove her shoe. Another would stand on the street on one foot and lean up against the building and get her shoe off. Another sat down on the curb of a crowded street and removed her shoe. One sat down on a box in a crowded store and took off her shoe. Several said their favorite method was to drop into a shoe store and get the shoe off. Others would go to movies to remove their shoes. Every one gave a history of having removed her shoes in public. Several said that they could not wear oxfords because it took too long to unlace the shoe when the pain struck.

When asked what maneuver gave them the most relief when they got their shoes off, some rubbed the toes, others worked the toes up and down. One kept saying she had to "crank" the toes to get relief, while others got relief by mashing or squeezing the toes.

In this series the condition occurred in feet with normal architecture. Seven of the nine had normal arches. Only two had very mild flat-foot deformity, and only two had bunions, but not severe enough to give trouble. Seven could curl the toes down normally, while two could flex the toes only till they were straight with the metatarsals. This is better than the average when we consider the age of these patients. Sir Robert Jones said, "Morton's disease appears to be associated with a foot with healthy nutrition".

The ages varied from 35 to 57, with an average of 47 years. The condition occurred on the right four times, and on the left four times, and one had bilateral involvement.

Some gave a history of a trivial injury, like a child riding a tricycle over the foot, but trauma did not seem to be a cause in any of my cases. However, it was the cause of the beginning of the pain in some of Morton's cases.

In no case was there any reddening of the skin or swelling or any tumor to be felt. Often there was a slight sensitiveness between the third and fourth toes.

In all cases the pain gradually increased. There is no tendency toward a spontaneous cure. Those who were relieved at first by going barefooted and wearing broad shoes found that later they would have attacks of pain even with these. In no case did the attacks come on while in bed. However, cases have been recorded<sup>15</sup> in which the sudden pain awoke the patient from a sound sleep.

Some waited a couple years after being informed that an operation would relieve their pain before consenting to the operation, so we need not urge the operation. They will ask for it in time.

It is not necessary to go into the pathology of these tumors as this has been de-



scribed in detail by those mentioned above. King<sup>14</sup> thinks it is best described as a "sclerosing neuroma". A neuroma was found in all nine cases. These were pearly white, and encapsulated and firm in consistency. These varied from round to spindle-shaped and also varied in size, being one to two centimeters in length. One tumor had two lobes (Fig. 1).

The first operation was done under penothal sodium anesthesia, but the remainder were done under novocain. A plantar incision is used by some as it gives better exposure. I prefer the web-splitting incision of McElvenny, as it leaves no scar on the sole, and the patient may walk sooner. The patients spend from one to two days in the hospital. The night following operation the patient may need a hypodermic for post-operative pain.

All wounds healed *per primum*. Four were closed with catgut, and one of these came back three weeks after the operation because there was a drop of discharge and a superficial catgut knot was removed and the wound healed promptly. The remaining six were closed with silk.

The longest follow-up has been two years. All nine have been contacted recently, and all report that they have never had a single pain like they had originally. They say that they can now wear any type of shoe without fear of pain.

All these patients had been to doctors and chiropodists. They had tried all types of shoes, especially broad toed shoes with low heels. They had had extra soles applied and had used metatarsal pads without relief. Two had been advised by orthopedists to have the toe amputated. Several have asked me the question, "Why did not some doctor tell me before about this operation?"

### Summary

Nine cases of Morton's toe syndrome have been reported in order to call attention to the relief surgery can give to the intrac-

table pain of this condition, and to give an analysis of the symptoms, so that this condition might be differentiated from the other types of metatarsalgia and the proper treatment advised.

### BIBLIOGRAPHY

1. Morton, Thomas G.: A Peculiar and Painful Affection of the Fourth Metatarso-Phalangeal Articulation, *Am. J. M. Sc.* 71:37, 1876.
2. Mills, C. K.: Pain in the Feet, *J. Nerv. & Ment. Dis.* 15:3, 1888.
3. Pollosson, A.: Anterior Metatarsalgia, *Lancet* 1:436 (March 2) 1889; 1:553 (March 16) 1889; 1:707 (April 6) 1889.
4. Bradford, E. H.: Metatarsal Neuralgia or "Morton's Affection of the Foot". *Boston M. & S. J.* 125:52, 1891.
5. Guthrie, L. G.: On a Form of Painful Toe, *Lancet* 1:628, 1892.
6. Osborne, O. T.: A Case of Morton's Metatarsalgia. Neuritis: Excision of joint: Cure. *New York State J. Med.* 62:270, 1895.
7. Tubby, A. H.: Metatarsal Neuralgia or Morton's Disease, with Four Cases, *Lancet* 2:1217, 1896.
8. Jones, R.: Planter Neuralgia, *Liverpool Med. Chir. J.* (Jan.) 1897.
9. Jones, R., and Tubby, A. H.: Metatarsalgia or Morton's Disease, *Ann. Surg.* 28:297-328, 1898.
10. Betts, L. O.: Morton's Metatarsalgia: Neuritis of Fourth Digital Nerve, *M. J. Australia*, 1:514, 1940.
11. McElvenny, R. T.: The Etiology and Surgical Treatment of Intractable Pain about the Fourth Metatarsophalangeal Joint (Morton's Toe), *J. Bone and Joint Surg.* 25:675 (July) 1943.
12. Swart, H. A.: A New Cause of Metatarsalgia, Report of One Case, *West Virginia M. J.* 40:12 (Jan.) 1944.
13. Baker, L. D., and Kuhn, H. H.: Morton's Metatarsalgia, Localized Degenerative Fibrosis with Neuromatous Proliferation of the Fourth Plantar Nerve, *South. M. J.* 37:123 (March) 1944.
14. King, L. S.: Note on the Pathology of Morton's Metatarsalgia, *Am. J. Clin. Path.* 16:124 (Feb.) 1946.
15. Bickel, W. H., and Dockerty, M. B.: Planter Neuromas, Morton's Toe, *Surg. Gynec. & Obst.* 84:111 (Jan.) 1947.

## THE FATE OF PATIENTS WITH LUNG ABSCESES IN GEORGIA

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Augusta

It is much easier to understand the poor results of surgical drainage of lung abscesses up to 1937 than to live them down.

The cases of nontuberculous lung abscess treated surgically at the University Hospital, Augusta, during the past three years were reviewed. In a period when adequate surgical drainage of *acute* lung abscess was known to be attended by most gratifying results,<sup>1,2</sup> it was startling to find that only 12 cases had drainage, while 10 had single or multiple lobectomies and 16 had total pneumonectomies. Certain observations regarding these 38 cases, and the implications

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they justify, form the basis for a brief report. There is insufficient time for detailed analysis.

We are not speaking of multiple pyemic abscesses, or of staphylococcal pneumonia in children with so-called carbuncle of the lung, or of abscesses associated with tumor. With one exception, known foreign body aspiration played no role in the cases. The etiology and pathology of the lesions under discussion are those generally attributed to "putrid" abscess but distressingly foul sputum is not constant. They result from the aspiration of infective material from the oropharynx and almost invariably begin as involvement of a single bronchopulmonary segment. This solitary initial character is most striking. When the suppurative pneumonitis passes a reversible point and necrosis and abscess actually supervene, the healing of the abscess depends primarily on adequate drainage and not upon general or local use of sulfonamides, penicillin, streptomycin, or arsenicals, and not upon collapse therapy. We believe that aspiration of the abscess, pneumothorax, pneumoperitoneum, and phrenic paralysis are accompanied by dangers far outweighing their possible advantages. The subsequent course of the patient with an unhealed initial abscess depends largely on its tendency to spill pus into new areas of the same or the other lung. Spreading pneumonitis with new abscess formation is the major cause of death,<sup>3</sup> with pyopneumothorax, pericarditis, hemorrhage, pyemia, brain abscess, and bronchial obstruction far behind. What has been said does not mean that we do not lean heavily on chemo- and antibiotic therapy for help in the prevention and treatment of complications of lung abscess. Before operation, one of the pneumonectomy patients had, for instance, recovered from a convincing septic embolization of the brain with penicillin and sulfadiazine therapy. Nor do we decree measures

aimed at improvement of bronchial drainage. Our theme is that (1) an open lung abscess is a constant threat to life, (2) an acute abscess not showing prompt and progressive healing with the best bronchial drainage obtainable should be surgically drained, and (3) the chronic and complicated cases admitted to the hospital for resection *must* indicate a much larger group that simply died.

An effort was made to learn something of the overall mortality rate of lung abscess in Georgia. We are indebted to Mr. Richard Brewer of the State Department of Public Health for the following figures and for a letter from which we quote. "Death certificates received in this office showing a lung abscess as the cause of death are queried to find out, if possible, the cause of the abscess. When the disease preceding the abscess is determined, the death is then charged against the disease rather than the abscess. Therefore, you are correct in that many lung abscesses are obscured under other primary causes." During the six years, 1940-1945 inclusive, 123 deaths, an average of 20.5, are attributed solely to lung abscess. Yearly figures during that period vary from a maximum of 27 in 1944 to a minimum of 13 in 1945. Whether the low figure of 13 in 1945 compared with an average of 20.5, is significant of anything, penicillin for instance, we do not know. Lung abscess not being a reportable disease, no figures on incidence are available.

The 38 cases mentioned at the outset do not take into consideration the patients who entered the University Hospital during the same period with abscess and who were treated by other than surgical means or who really were not treated at all because they were moribund. Nor are included the cases of rupture of abscess into the pleural cavity in which surgical treatment resolved itself into treatment of the empyema with a bronchial fistula.

Lest it be thought that any undue enthusiasm for resection played a part, let us consider first the cases subjected to drainage. There were 12 and only 5 of them were acute. The five acute cases varied in duration of the abscess between two and five *weeks* with an average of four weeks. One of the five presented multiple abscesses which were drained separately. The seven chronic cases, drained, varied in the duration of their illness between three and six *months* with an average of four and one-half months. Four of these seven chronic abscesses presented more than one abscess on admission. Error has been toward drainage in these chronic and complicated cases rather than toward resection, the reasons for each being beyond the scope of this paper.

The ten patients treated by lobectomy had abscesses varying in duration from eleven months to seven years, with an average of twenty-six months. Four required right upper lobectomy; one, right upper and middle; one, right upper and apical segment of lower; one, right middle and segment of lower; two, right lower; and one, left lower. In an effort to save the middle lobe of one patient having right upper lobectomy, it was left considerably compromised. Atelectasis, suppuration, drainage, and eventual total pneumonectomy followed before the patient was cured. In none of these ten cases did drainage seem reasonable.

The 16 patients treated by pneumonectomy had been ill from three and one-half months to ten years, with an average of nineteen months. Thirteen had right pneumonectomies and three, left. Multiple abscesses involving upper and lower lobes were present in all but one. This patient was believed to have a carcinoma even at exploration and the lung was removed. He should have had only a lobectomy. Several middle lobes were sacrificed because there

was no practicable way to save them.

The five patients with acute abscesses were ill. All the chronic cases had purulent sputum except the one thought to have tumor. His sputum was bloody but not purulent. The rest had either severe, recurring pneumonitis, or severe, recurring hemorrhage, or both.

The results are as follows:

Of the five acute abscesses drained, all recovered without serious difficulty and are well.

Of the seven chronic abscesses drained, one died in the hospital of septic embolization of the brain. The other six healed after varying lengths of time and were discharged as well. One of these, a colored male of 52, died four or five months after discharge but we have been unable to learn whether his death was connected with the two supposedly healed abscesses.

Of the ten lobectomies, all were discharged as well. One has subsequently developed and died of pulmonary tuberculosis, careful sputum studies and pathologic examination of the resected lobe having been negative for tuberculosis at the time of operation.

Of the sixteen pneumonectomies, fourteen are well and two died postoperatively. One of these died of pulmonary edema a few hours after operation and the other of contralateral bronchial obstruction on the fifth day.

Mortality percentages mean little in such small groups but it is of interest that the two deaths in sixteen pneumonectomies for abscess were accompanied by only one death among twenty-two pneumonectomies for other causes, done during the same period. This confirms our belief that the multiple abscess cases present greater surgical risks than other candidates for the operation. The patient who died of brain abscesses after drainage of two chronic,



contiguous lower lobe abscesses should have had a lobectomy. He was an Indian and neither he nor his extensive family would consent to lobectomy.

### Conclusions

The duration and character of the lung abscesses treated surgically at the University Hospital, together with the natural history of the disease, lead us to believe that many patients are dying yearly who might be spared by early drainage and that some who are living might similarly be spared extensive loss of lung tissue and lung function.

### BIBLIOGRAPHY

1. Neuhof, H., and Touroff, A.S.W.: Acute Putrid Abscess of the Lung, *J. Thoracic Surg.* 9:439, 1940.
2. Shaw, R. R.: Pulmonary Abscess. Value of Early, One-Stage Operation, *J. Thoracic Surg.* 11:453, 1942.
3. Rives, J. D., Major, R. C., and Romano, S. A.: *Ann. Surg.* 107:753, 1938. Lung Abscess, An Analysis of the Cause of Death in One Hundred Consecutive Fatal Cases.

### DISCUSSION OF PAPERS OF SURGICAL SYMPOSIUM

DR. I. A. FERGUSON (Atlanta): These nine very instructive and interesting papers cannot be adequately discussed in five minutes, of course; but I will attempt to hit the high spots within the given limits of time.

To start on Dr. Turner's paper: The surgical treatment of peptic ulcer has been unsatisfactory in such a great percentage of cases, gastrojejunostomy alone is adaptable to a relatively small proportion of them, and subtotal gastrectomy is such a formidable procedure that the profession is anxious to find a simpler more satisfactory approach to the problem. Perhaps vagotomy is the answer. Not enough experience has been gained to say whether it is or not; certainly in specialized classes of cases it is of great proven value.

I would like to point out that more and more the profession is taking cognizance of the part played by psychic and emotional factors. Cushing noticed in his early studies of the pituitary that peptic ulcer uniformly followed certain injuries and changes in the brain stem. Apparently sectioning of the vagus nerves does prevent some of the psychic conflicts from manifesting themselves as somatic disease of the stomach and duodenum.

We know that following vagotomy the motility of the stomach and its acid secretion are greatly decreased. These conditions prevail for a year and at the end of a year the motility of the stomach has returned to normal but the acid secretion remains decreased, as the insulin test with hypoglycemia does not provoke any increase in acidity.

This is a worthwhile procedure that should be evaluated in the larger clinics. I think it is a matter of case study and the taking of alternate cases to find which are adaptable to this kind of treatment. Certainly, there are some poor results. Heuer and Walters both report cases that progress, hemorrhage and perforate even after vagotomy.

The papers of Dr. Martin and Dr. Boling, which I am grouping together because they are both on colon surgery, are interesting and instructive. The contrast between the surgery of the past ten years, as compared with that of earlier years, was extremely interesting. I think the next ten years will be just as

interesting because we do know a great deal more about maintenance of protein and fluid balance and the range of operability will widen.

The paper of Dr. Berry is extremely important. I know nothing about the administration of penicillin by inhalation from my own experience, but I am convinced that his other recommendations are very fine, and that may be very fine too. I think that actual mechanical removal of the fluid from the chest and relief of the atelectasis will be useful also.

Early ambulation, as presented by Dr. Davison and Dr. Letton, is another thing that has been impressed upon us in the past few years. It is a wave-like affair that comes and goes. There is no question that the patient feels better, and in the majority of cases there are fewer complications. I am sure that the patient has fewer vascular complications. I think we have to remember it takes twenty-one days for fibroplasia to be complete, but I am sure it is much better to get the patient up on the first day than on the fifth day.

DR. R. HUGH WOOD (Atlanta): I want to make comment only on one paper, and that is to refer to Dr. Turner's address on the treatment of peptic ulcer. Dr. Ferguson touched on a phase of that, in which I am most interested, when he said that the psychogenic factors and the psychosomatic factors in the management of the patient are of tremendous importance. As a matter of fact, I think we might as well admit to ourselves once and for all that it is the complete cause of peptic ulcer. What we eat has nothing to do with it. Therefore, no matter what one does to the patient's stomach or to its nerves, in fact if we should remove the stomach entirely, he would still be a sick man, because we have not removed the cause of the complaint. Of course, we can relieve the discomfort—can help him, in other words. But I make this plea—that the disease belongs in the psychosomatic realm etiologically; and no matter what surgery has done or how successful it may be we still have to treat it from that standpoint.

There are not enough psychiatrists to treat these cases, so therefore it behooves all of us to learn something about how to handle patients with psychosomatic disease.

Many of you handle these patients better than any psychiatrist. There was no better psychiatrist than the old family doctor, who knew his patient, knew the patient's family and knew the conditions under which he lived. No matter what surgery does, as Dr. Ferguson so wisely said, you still have a patient the cause of whose disease cannot be removed surgically.

DR. WILLIAM E. MITCHELL (Atlanta): I wish to limit my discussion to the papers dealing with colon and rectal surgery. The other five are also certainly excellent.

Dr. Boling mentioned the procedure of sleeve resection for lesions lying low in the rectum. This has been controversial, but we have found it satisfactory in two types of cases. The first is where there is a lesion in the lower rectum in an aged person who has evidence of metastasis and who absolutely refuses colostomy; then in the group of patients without demonstrable metastasis who refuse colostomy. We have had patients so operated on who have survived many years and who do not wear a guard on account of seepage.

Referring to Dr. Martin's paper: First, is a lesion in the colon which bothers the patient in the form of a little bloody mucus or a change in bowel habit. He goes from one doctor to another or occasionally comes to the surgeon. We have several such cases of our own. The double-contrast medium will bring out a pedunculated growth which can be missed otherwise. I ask that we extend the procedures mentioned by Dr. Martin to include, if in doubt, the double-contrast medium in study of the colon.

Secondly, procedures in operations on the colon are more or less standardized, but some of us put more emphasis on antibacterial drugs than on surgical technic. That should not be done, of course; but with these new drugs we can do more primary anastomoses. We believe that in many of these cases, where the person's length of life is limited, it is better to do primary anastomosis than to do a soiling colostomy, especially in women.

Third, is the procedure of using chemotherapeutic agents intra-abdominally. We have always done this and in recent years used sulfonamide crystals. A few months ago we gave streptomycin in cases where we anticipated anastomosis of the colon. This does markedly reduce the flora, and we shall continue to use it in selected cases.

A final point is the use of intraperitoneal penicillin. Some of the larger clinics have done away with intraperitoneal drugs entirely; others have retained their use, and are using penicillin. We use 250,000 units of penicillin introduced in the peritoneal cavity as the incision is closed.

DR. THOMAS HARROLD (Macon): I should like to make just one or two points. I am very much afraid of the increasing propaganda for so-called conservatism in surgery of the colon. Of all major carcinoma in the abdomen, and probably in the entire body, best results have been obtained in surgery of the colon and rectum. If the different segments of the colon are further subdivided, it is found that the best results of all have been obtained by radical excision of the sigmoid and rectum for growths in these regions.

The reason for these better results seems to me to be apparent. The blood supply to the lower sigmoid and rectum comes from the superior hemorrhoidal artery. Once this artery is ligated, the entire sigmoid and rectum must be removed. Of course this means a radical cleaning out of all the lymph glands from the promontory of the sacrum to the perineum. It is perhaps the most favorable location in the entire body for really radical extirpation of a carcinoma. I believe that the recent trend toward less radical surgery with frequent attempts to save a rectal sphincter by performing an anastomosis low in the pelvis, will add to the immediate surgical mortality and certainly result in a much lower percentage of cures.

It is impossible to excise as wide an area of lymphatics when operating on lesions in the upper colon. The number of cures is also definitely smaller. Recently I operated on a carcinoma located rather high in the sigmoid where anastomosis would have been technically possible. I prepared to do this but I found that a metastatic gland was present low in the pelvis and lying quite near the superior hemorrhoidal artery. This gland was definitely distal to the area into which one would have expected the lymphatics from the growth to drain and proves that sometimes there is retrograde metastasis in the lymphatics. Because of the location of this gland, it obviously would not have been safe to retain the superior hemorrhoidal artery.

In operating upon carcinoma of the bowel, the surgeon's chief concern should be the complete removal of all tissue and lymphatics that might possibly be involved. Anastomosis of the bowel with restoration of continuity should be an entirely secondary consideration. Restoration of continuity is usually feasible when the carcinoma is located above the sigmoid, but it is my opinion that in lesions of the sigmoid or rectum, no attempt should be made to do anything less radical than the complete abdominoperineal resection with the establishment of a permanent colostomy.

DR. T. C. DAVISON (Atlanta): All of these papers are entitled to a liberal discussion, but that is impossible, due to insufficient time.

In regard to early ambulation, I wish just to remark that the reasons for that are all good. The first reason is that it is good for the patient. It prevents complications, saves time, saves the patient money, and saves hospital days; and it doubles the hospital bed capacity over a given period of time. Those are our reasons for early ambulation.

I should like to discuss Dr. Vella's paper on the postoperative complications of thyroidectomy. Due to limited time he did not get a chance to cover all of his points, I am sure. I wish especially to pay my respects to his remarks on myxedema. Myxedema is a very much dreaded complication by some and is not supposed to follow thyroidectomy; and I should like to quote the late Dr. Hertzler, from his book on "Diseases of the Thyroid Gland", which I think should be on the bookshelf of every doctor, especially those doing thyroid work. Dr. Hertzler stated in this book that the dread of myxedema had been caused by the experience of Dr. Koch in removing the entire thyroid gland from a boy ten years of age in whom a myxedema resulted. Hertzler then went on to state that total thyroidectomy on an adult did not cause myxedema. I have done total thyroidectomies for twenty years and have very rarely seen a case of myxedema. In a growing child the function of the thyroid gland is to help him grow up. Then, as Dr. Hertzler says in his book, "It retires behind the palms, like a discreet chaperon."

It should be considered that a toxic thyroid is toxic one hundred per cent, and if you leave five per cent or ten per cent or two per cent of the gland you leave the patient just that much sick. Of course, subtotal thyroidectomy does benefit the patient, but the patients on whom it is done either are not cured or do not stay cured. They come back to you or go to someone else with a recurrence of symptoms. In my early days as an operator on the thyroid I was guilty of doing a thyroidectomy on the same patient four times because I did not have enough courage to do a total thyroidectomy. If you operate on the same patient several times it is very dangerous, because of adhesions and so forth. It is much easier on you and on the patient to do a total thyroidectomy at the first operation.

There have been cases of myxedema that have never seen a surgeon, and we believe it is due to some condition in the thyroid gland—possibly to a secretion. I am going to make a statement that you may doubt. There is a possibility of the patient's having both thyrotoxicosis and myxedema at the same time. You ask how that is possible. We have a patient in the Baptist Hospital in Atlanta now, who has some evidence of myxedema, yet her basal metabolic rate was plus 80. She had been operated on seven years previously by another surgeon, who left one-third of her gland in. She has eye signs; she does not have exophthalmos but has a definite stare. She has a rapid heart, has a plus basal metabolic rate, has every indication of a recurrent or remaining toxic thyroid, as well as myxedema. We have done a total thyroidectomy on her, and I believe she will be relieved. It will be interesting to learn the results. But myxedema is not the bugbear we once feared in doing total thyroidectomies.

DR. J. W. SIMMONS (Brunswick): I have not sense enough to discuss all of these papers, but I should like to make a remark about the discussion which followed. One of the surgeons at the Mayo Clinic stated that stomach ulcers are the wound stripes of civilization, and what a civilization. I should also like to call your attention to the fact that at the beginning of this war and in the months and years immediately following it, the incidence of peptic ulcer was 25 per cent increased. However, I want to confine the major part of my discussion to just two of these papers.

I would not for one moment take the wind out of the sails of a craft sailing so smoothly over calm seas into a safe harbor in discussing the paper of



Drs. Davison and Letton and that of Dr. Hodgson. Some of you may be old enough to remember Dr. J. A. Bodine at the Polyclinic in New York. He was practicing the art of early ambulation. You recall he was doing practically all his operations under very dilute solutions of cocaine. The patient would walk into the clinic on Friday or Saturday after an operation on Wednesday. I was in Florida this month, and Dr. Duncan McEwan, of Orlando, read a paper on the same subject of early ambulation. It is not a reflection on Dr. Davison at all; his sole purpose in showing these results to you is to popularize it.

I have had no difficulty with early ambulation. I brought it back in 1907 for my obstetric patients, but very cautiously, because all the midwives and all the neighbors said "nine days in bed." I would tell my patients: "You can slip out of bed tomorrow, but don't let anybody see you."

Now, Dr. Hodgson's paper. I hate to inject anything political. Vocational rehabilitation is wonderful work. But I will repeat the remarks I made in Macon last year in discussing Dr. Abercrombie's wonderful report. I should like to see all the work we are doing in Georgia, at least for the physical and mental health and rehabilitation of our people, heading up under the proper departments. I understand that vocational rehabilitation, even the surgical, orthopedic and what not, is under the Education Department and that several of our eleemosynary institutions dealing with the health of our people are under the Welfare Department. That gives some opportunity for political pull. I would like to see this Health Department, of which we are so proud, take its share of these cases and let the economic side and the labor side and all these other phases of those cases fall under the proper departments of our State. I say this in all seriousness, because we doctors have to do a great deal of the work, and we do not want the ultimate boss to be the welfare director or the educational director. They have enough work to do in their departments. So with that appeal, I want to thank you for your kind attention.

DR. OSLER A. ABBOTT (Atlanta): I want to confine my remarks entirely to Dr. Major's paper, which I feel is on a most timely and worthwhile subject. To those of us in thoracic surgery, this disease, pulmonary abscess, has constituted one of the most difficult barriers to be conquered in the surgical therapy of lung disease. I do not believe any pulmonary disease has been so liable to neglect and "laissez faire" than lung abscess. This disease is subject to various modes of attack, but there are underlying principles which predicate the applicability and timing of these variations in therapy.

To begin with, we must appreciate the natural progress of untreated abscess with the variance in prognosis of acute, subacute, and chronic abscess of the lung. Statistically, two factors determine prognosis; namely, the duration of the abscess, and the method of therapy. During the first six weeks, or acute stage, adequate chemotherapy and repeated bronchoscopic drainage may produce cure in 60 to 70 per cent of cases; while this outlook decreases from the sixth week to the fourth month (the subacute into the chronic stage), when less than 10 per cent may expect cure without radical surgery. To delay such measures in the face of chronic abscess is to invite such dread complications as metastatic brain abscess, septicemia, and hemorrhage. I personally have veered away from external drainage and prefer resection because of a higher cure and a lower morbidity rate.

I feel very strongly that any lung abscess should be immediately brought to bronchoscopic attention. The early use of the bronchoscope will increase chances for cure by conservative means, decrease potential complications, or give a better prepared patient, should more radical measures become necessary.

Any abscess requires bronchoscopic investigation and study of bronchial secretions, because of the frequency

with which obstructing endobronchial tumor may be associated with abscess. We see too many late and neglected pulmonary carcinomas, and every effort to remedy this situation is fully justified.

I wish to congratulate Dr. Major upon his excellent results and upon his bringing to our attention a subject which has been so neglected in the past.

DR. A. H. LETTON (Closing): Several people have asked me about the closure that we are using. I ran over it so fast a while ago that they did not get it.

We think it is very important to have very, very good closure; that is, each layer approximated quite closely. We are using No. 20 white cotton, J. P. Coats, in the peritoneum. We use a few sutures in the muscles, to hold them together, then No. 28 steel wire in the fascia. We think that steel is superior to cotton or anything else in the fascia, because it will not act as a wick if you have any infection, nor will it work out. Then chronic suture in the subcutaneous tissue and No. 60 black cotton in the skin.

I should like to refer to some work Dr. Neuberger reported in 1943. He took a group of rats and made identical incisions in the abdomens of these rats and closed them identically. He put half of the rats in a large cage which had a tread mill in it, where the rats could run around, and put the others in small individual cages, where they could not run around. He killed them at varying intervals. He put a cannula in the rats and filled them with air under pressure, to test the tension, and found a marked decrease in tension the abdominal wall would stand in those rats which had been kept in the small cages compared with the tension in those which had been placed in the cage where the tread mill was, where they could run around.

DR. JOHN W. TURNER (Closing): I wish to thank the members who have discussed the paper which I presented this morning. Cognizance of the fact that peptic ulcer is a disease of the psychosomatic system and also of the fact that the resection of the vagus nerve is the first surgery which has been conceived to directly combat the psychosomatic factor, most peptic ulcers are treated by the internist, and properly so. Those who come to the surgeon have not been relieved or cured by the treatment which they have already received and come for some relief. Those who have had vagotomy, I think, are the best witnesses of the efficiency of the treatment and their testimony is more favorable than that following any other type of surgery.

I have in my pocket a letter which I received a few days ago from Dragstedt. He says, "We have now performed about two hundred of these operations (vagotomy) in our clinic and are becoming more and more enthusiastic about the procedure."

Vagotomy has been remarkably successful in the treatment of bleeding peptic ulcers, as well as of other kinds. We realize that a great deal of the surgery that we do is defeat surgery. Thyroid surgery is not the answer to thyroid disease. Sometime we may find a way of combatting thyroid disease without resorting to surgery; sometime we may find a way to combat peptic ulcer without resorting to surgery. Vagotomy is certainly not as radical as procedures that have been formerly used, and until we find some other way to successfully defeat the psychosomatic factor, vagotomy certainly offers the best way we have found.

DR. ROBERT C. MAJOR (Closing): I appreciate the remarks of Dr. Abbott and am particularly glad he emphasized the importance of bronchoscopy. I shall not take more of your time, except to say that I believe there is still a group of acute, uncomplicated lung abscesses which is not going on to complete healing with the best bronchial drainage obtainable and in which surgical drainage is still a good operation.

PAUL D. VELLA (Closing): Referring to the



remarks of Dr. Davison on myxedema occurring after thyroidectomy, for a good purpose we entitled that section of the paper "Hypothyroidism". Myxedema is a skin condition associated with the most severe degrees of hypothyroidism (although a similar skin condition has been reported in other disease entities: even thyrotoxicosis). Hypothyroidism is a generic term covering all degrees of the condition of lowering of the basal metabolic rate due to subnormal functioning of the thyroid gland. As such it is a very common occurrence following removal of the thyroid gland. One of the points of that section of my paper which I no doubt failed to emphasize sufficiently was that to wait for the classic signs of true myxedema before making a diagnosis of lowered thyroid function will cause one to miss the diagnosis of significant and symptom-producing degrees of hypothyroidism following thyroidectomy.

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### DEDICATION ADDRESS ATHENS GENERAL HOSPITAL

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MAX CUTLER, M.D.  
*Chicago*

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It is a great honor and a high privilege to address you on this auspicious occasion. I take this opportunity to extend my hearty congratulations on the successful completion of your new enterprise and join in recognition of the combined effort which has made this realization possible. May I also offer my best wishes to the administration and to your director, Dr. Barner, for the success of this important undertaking.

For this touching tribute you pay me, I am deeply grateful. I accept it with deep humility in the name of my parents whose courage and vision under the most adverse circumstances made by medical career possible. I accept it also with a deep sense of gratitude to the little community of Athens and the University of Georgia which 40 years ago gave me a home, opened its schools—and its heart—to me and my family. The recurrent, kindly attention to me by my Athens friends in and out of the profession continues to be a source of deep inner joy and satisfaction.

When the first cancer ward was opened in the Middlesex Hospital, London, 155 years ago, the founder dedicated the ward as

follows: "For the care of the cancer patient until relieved by art or released by death." Today we dedicate a new enterprise, a special unit for the diagnosis and treatment of cancer. Perhaps it is appropriate at this time that we examine the problem briefly and note the progress that has been made in the intervening years.

As a subject of popular interest with the laity and medical profession the problem of cancer has no parallel in the entire realm of medicine. As an enemy of mankind, it ranks first among the unsolved mysteries of science.

Every three minutes someone in the United States dies of cancer. It accounts for 1 out of every 8 deaths, and 1 in 4 deaths among women between 45 and 55. Altogether some 17 million Americans now walking around are doomed to die of this disease. At any given time there are almost one-half million cancer patients in the United States. Between Pearl Harbor and V-J Day our country lost almost 300,000 lives in the war and twice as many, about 600,000, from cancer and it is of interest that during this same period we spent 317 billion dollars in the war; 2 million against cancer.

Two billion dollars went into construction of the atomic bomb and the question naturally arises, What stands in the way of attacking the cancer problem in the same manner? The difficulty lies in the fact that in cancer we deal with cells, the units of life, whereas *atoms* are the units of *matter*. The biologists do not yet understand life as the physicists understand matter. Furthermore, the physicists had considerable knowledge about the *atom* before they started; we know very little about the *cell* except that it is infinitely more complex.

What makes a normal cell divide? What makes it stop dividing? What makes it grow too fast? These are some of the basic things we have to find out before we can

hope to understand the fundamental causes of cancer. But while we organize and conduct cancer research on an ever-increasing scale we must not overlook the urgency of giving to the cancer patient today the very best possible treatment. My colleague, Dr. Ludvig Hektoen, commonly referred to as Dean of American Medicine, puts it this way, "You can't satisfy the present cancer victim by proving to him that research in the future may bring the cure. You've got to treat him with the means at hand, and those means are really magic."

A recent study of this question indicates that if every patient suffering from cancer in the United States could be given the benefit of the most modern and skilled methods of treatment, the increased curability over present conditions would result in a saving of at least 50,000 lives annually. Unfortunately, the facilities for the modern treatment of cancer in this country are wholly inadequate. The perfecting of service to the cancer patient demands a personnel of great experience, a costly equipment and a perfect organization; it is therefore evident that such establishments for the treatment of cancer cannot be multiplied too rapidly. Thus, the efforts of organization of this branch of medicine should be indicated by the *quality* of the institutions and not by their *number*.

Cancer is an enemy that is more effectively fought with knowledge than with fear and although the battle against this disease has been difficult and sometimes discouraging, a comparison of the results today with those of a few decades ago leaves room for considerable optimism. Certainly our understanding of the disease has increased. As to results, a patient with cancer of the skin, lip or early cancer of the mouth has an excellent chance of cure. Cancer of the throat, formerly 100 per cent fatal, now yields 50 to 90 per cent cures, in most cases without operation; and cancer of the cervix,

formerly requiring a formidable operation, is now curable in a high proportion of cases without operation, with almost no mortality and a high proportion of permanent cures. These are some of the miracles of x-rays and radium. Important advances in surgery have extended its scope and effectiveness, rendering curable certain forms of internal cancer which only recently have been regarded as inoperable and incurable.

There is a present tendency in research to duplicate in medicine the elaborate organizations which have grown up in industry. These projects should be supported with the reasonable hope that adequate funds, equipment and trained personnel in a cooperative effort will result in important contributions. Let me say, however, that a real danger lurks in this direction. I ask the serious question whether the complications inherent in size and superorganization do not sometimes defeat the very purposes for which a project is founded. I refer to that disease which Holmes has called "the curse of bigness." Let us not overlook the potentialities of the isolated but inspired scientist struggling in the corner of a laboratory under the most modest conditions with wholly inadequate facilities. One need only scan the pages of medical history and review the primitive and modest circumstances surrounding the discoveries of a Jenner, a Pasteur, and a Curie to be impressed with this significant fact. One may well ask what role did the obstacles and almost insuperable difficulties play in the development of these supermen.

When we think of the superb facilities of our great, modern medical centers with their elaborate equipment and personnel, with their huge endowments and *even larger budgets*, it is interesting to look back upon the conditions under which some of the great pioneers made their fundamental contributions. Thus, Ephriam McDowell, practicing in the small town of Danville, Kentucky,

counting less than 300 inhabitants, in 1809 was called to see Mrs. Jane Todd Crawford for a large abdominal tumor. He proposed an operation to her with the understanding that it was in the nature of an experiment. She accepted, and traveled 60 miles on horseback to Danville where under the influence of a large dose of morphine he removed the tumor in 25 minutes. The patient recovered so rapidly that on the fifth day he found her making her beds. She lived more than 30 years after the operation. Thus Ephriam McDowell was the first to open the peritoneal cavity and perform ovariectomy. This operation was performed 33 years before the first use of ether and 60 years before Lister's introduction of antiseptic surgery. It must be remembered that 170 years ago the peritoneal cavity was an unexplored domain and its exposure was taken to mean peritonitis and death. During the subsequent four years he performed two similar operations successfully. Being an extremely modest man, it required much persuasion on the part of his friends to induce him to publish his results. It was not until seven years later that this modest country doctor recorded his deed so simply and briefly and so out of proportion to its importance that it was met with skepticism, distrust and derision. For half a century he was almost completely forgotten when his countrymen awoke to the realization that in the backwoods of Kentucky there lived and died one of the greatest of American surgeons, the founder of abdominal surgery.

It has been fully established in recent years, but unrecognized by medical history, that the first cesarean section to be executed successfully in this country was performed in 1794 by Dr. Jesse Bennett. Pickrell relates that on January 14, 1794, Jesse Bennett's wife was confined in her first pregnancy. The Bennetts then lived in a frontier settlement in the Shenandoah Valley. Labor

was difficult because of a contracted pelvis. The patient chose cesarean section and, stretched on a crude plank table over two barrels, was put under the influence of a large dose of opium. Assisted only by two Negro women the courageous frontier surgeon, by one stroke of the knife laid open the abdomen and delivered the child. To the astonishment of all, the mother recovered and the child is said to have reached the age of 75 years. When asked why he did not report his case in a medical journal, Bennett replied that no strange doctors would believe that operation could be done in the Virginia backwoods and the mother live and he'd be damned if he would give them a chance to call him a liar.

Benjamin Waterhouse was born in 1754 in Newport, Rhode Island. At the age of 29 he accepted the chair of Theory and Practice in the newly organized Harvard Medical School. In 1799 he received a copy of Jenner's publication on vaccination, was at once impressed with its importance and promptly published in the *Columbian Sentinel* of Boston a short account of the new inoculation under the title, "Something Curious in the Medical Line."

For centuries smallpox was the great horror of the human race, and of that period it has been said that no mother counted her children until all had passed through smallpox. No corner of the earth was safe from the plague. MacCauley called it the most terrible of all ministries of death. It has been reliably estimated that in the eighteenth century alone smallpox killed 60 million men, women and children.

On the 14th day of May, 1796, the young Edward Jenner, a humble village doctor took matter from the hand of a dairy maid who had contracted cowpox while milking and inserted it by two superficial incisions into the arm of James Phipps, a boy of 8, and performed the first vaccination. Six weeks later he introduced into this arm



virulent smallpox matter without the slightest effect, for Phipps had been vaccinated. Thus at one stroke, smallpox was destined to become a disease of the past.

After an exhaustive study of the new inoculation, Benjamin Waterhouse, the Jenner of America, proceeded to perform the first vaccinations in the United States upon his own children and a servant boy. Two months later they were sent to a smallpox hospital where they were not only exposed to the disease but inoculated with the virulent matter. The children did not contract the disease and thus the effectiveness of vaccination was first demonstrated in America. Waterhouse requested the Massachusetts Medical Society to organize a vaccination center, but the society took no notice of his communication. Their refusal is not so surprising, for had not the Royal Society of London declined to receive and publish Jenner's brilliant contribution on the ground that he ought not to risk his reputation by presenting to that learned body anything so incredible as vaccination.

And finally, think of our own Crawford Long's memorable contribution to scientific medicine, accomplished singly and without the paraphernalia of the modern research institute. Here was a modest man who led the laborious life of a practitioner of medicine in a small community, who gave to the world the art of anesthesia, a triumph unsurpassed in the history of medicine. Yes, here was a man of ideas and ideals who said, "My profession is to me a ministry from God, I am as much called upon to practice medicine as a minister is to preach the Gospel."

Ladies and Gentlemen: It is a unique privilege to have participated in the dedication of this important enterprise, an enterprise whose full meaning and true worth will not be measured by the magnificence of the building or even by the wealth and the

perfection of its equipment, but rather by the quality of mind and heart of its personnel.

I place high hopes in your new department. May all who enter it be fired with the spirit of service and sacrifice. May it become an ever-widening influence for alleviation and cure and may it contribute to our knowledge of the disease and the relief of the cancer patient.

#### MEDICAL ASSOCIATION OF GEORGIA

##### *Financial Statement of Cash Assets*

May 1, 1946, to March 31, 1947

#### RECEIPTS

May 1, 1946:

Cash in Fulton National Bank subject to check .....	\$ 23,351.29
Six \$1,000 U. S. Government Bonds, with accrued interest, Series D, 337880-85, June 1939, 10-year bonds .....	5,400.00
Four \$1,000 U. S. Government Bonds, with accrued interest, Series D, 843380-83, January 1940, 10-year bonds .....	3,520.00
One \$10,000 U. S. Government Bond, with accrued interest, Series F, X183923, June 1944, 12-year bond .....	7,540.00
One \$5,000 U. S. Government Bond, Series G, V562461, July 1945, 12-year bond .....	4,845.00
One \$10,000 U. S. Government Bond, Series G, X507962, July 1945, 12-year bond .....	9,690.00
One \$5,000 U. S. Government Bond, Series G, V632061, March 1947, 12-year bond .....	4,890.00
One \$10,000 U. S. Government Bond, Series G, X641668, March 1947, 12-year bond .....	9,780.00
Standard Federal Savings and Loan Association, with interest .....	6,017.70
Receipts from operating (May 1, 1946 to March 31, 1947) .....	32,975.05
	<u>\$108,009.04</u>

#### DISBURSEMENTS

March 31, 1947:

Disbursements itemized .....	\$37,970.88
Cash in bank subject to check .....	18,355.46
Six \$1,000 U. S. Government Bonds .....	5,400.00
Four \$1,000 U. S. Government Bonds .....	3,520.00
One \$10,000 U. S. Government Bond .....	7,540.00
One \$5,000 U. S. Government Bond .....	4,845.00
One \$10,000 U. S. Government Bond .....	9,690.00
One \$5,000 U. S. Government Bond .....	4,890.00
One \$10,000 U. S. Government Bond .....	9,780.00
Standard Federal Savings and Loan Association .....	6,017.70
	<u>\$108,009.04</u>

#### MEDICAL ASSOCIATION OF GEORGIA

##### *Receipts and Disbursements*

May 1, 1946, to March 31, 1947

#### RECEIPTS

Cash on hand subject to check .....	\$23,351.29
Receipts (other than accrued interest) .....	32,975.05
	<u>\$ 56,326.34</u>

## DISBURSEMENTS

Disbursements itemized .....	\$37,970.88	
Cash in bank subject to check .....	18,355.46	\$ 56,326.34

THE JOURNAL OF THE MEDICAL ASSOCIATION  
OF GEORGIA*Receipts and Disbursements*

May 1, 1946, to March 31, 1947

## RECEIPTS

Advertising .....	\$13,837.40	
Membership subscriptions .....	5,367.17	
Regular subscriptions .....	78.25	\$ 19,282.82

## DISBURSEMENTS

Printing and mailing .....	\$7,676.46	
Salaries .....	2,612.50	
Postage .....	370.00	
Engraving .....	239.15	
Extra secretarial work .....	300.00	
Commission on advertising .....	129.47	
News clippings .....	60.00	
Copyright .....	24.00	
Addressograph .....	19.37	
Gain .....	7,851.87	\$ 19,282.82

## MEDICAL ASSOCIATION OF GEORGIA

*Receipts and Disbursements*

May 1, 1946, to March 31, 1947

## SOURCES OF INCOME

Dues .....	\$12,525.50	
Advertising .....	13,837.40	
Exhibits .....	6,158.90	
One \$5,000 U. S. Government Bond .....	4,890.00	
One \$10,000 U. S. Government Bond .....	9,780.00	
Interest .....	616.53	
Subscriptions .....	78.25	\$ 47,886.58

## DISBURSEMENTS

Itemized expenses .....	\$37,970.88	
Gain .....	9,915.70	\$ 47,886.58

May 1, 1946:	
Cash and cash assets .....	\$60,122.46
Gain in cash and cash assets .....	9,915.70
March 31, 1947:	
Cash and cash assets (March 31, 1947) .....	\$70,038.16

## INCOME

May 1, 1946, to March 31, 1947

Date	Deposited in Bank	Source	Amount	
May 18, 1946	Dues .....		\$406.00	
	Ads .....		21.86	
	Exhibits .....		356.00	\$ 783.86
May 25, 1946	Dues .....		98.50	
	Ads .....		774.63	
	Exhibits .....		255.00	1,128.13
June 14, 1946	Dues .....		42.00	
	Ads .....		962.14	
	Subscriptions .....		6.00	1,010.14
July 13, 1946	Dues .....		154.00	
	Ads .....		268.10	
	Interest .....		187.50	
	Subscriptions .....		11.00	620.60
July 24, 1946	Dues .....		49.00	
	Ads .....		922.93	
	Subscriptions .....		3.25	975.18
Aug. 17, 1946	Dues .....		66.50	
	Ads .....		588.47	654.97
Aug. 30, 1946	Dues .....		52.50	
	Ads .....		841.84	
	Subscriptions .....		9.50	903.84

Sept. 21, 1946	Dues .....	87.50	
	Ads .....	940.31	
	Subscriptions .....	7.00	1,034.81
Oct. 24, 1946	Dues .....	301.00	
	Ads .....	1,096.07	
	Subscriptions .....	3.50	1,400.57
Nov. 18, 1946	Dues .....	178.50	
	Ads .....	1,170.25	
	Subscriptions .....	5.50	1,354.25
Dec. 5, 1946	Dues .....	503.50	
	Ads .....	100.40	
	Subscriptions .....	8.00	
	Exhibits .....	3,021.40	3,633.30
Dec. 21, 1946	Dues .....	287.00	
	Ads .....	3,256.17	
	Subscription .....	3.00	
	Exhibits .....	1,690.50	5,236.67
Jan. 17, 1947	Dues .....	686.00	
	Ads .....	258.80	
	Interest .....	187.50	
	Subscription .....	2.50	
	Exhibits .....	294.00	1,428.80
Feb. 1, 1947	Dues .....	1,050.00	
	Ads .....	745.13	
	Subscriptions .....	5.50	1,800.63
Feb. 27, 1947	Dues .....	1,677.00	
	Ads .....	885.24	
	Subscriptions .....	7.00	
	Exhibits .....	150.00	2,719.24
Mar. 22, 1947	Dues .....	5,704.00	
	Ads .....	162.94	
	Subscriptions .....	5.50	
	Exhibits .....	269.50	6,141.94
Mar. 31, 1947	Dues .....	1,182.50	
	Ads .....	842.12	
	Subscription .....	1.00	
	Exhibit .....	122.50	2,148.12
			\$ 32,975.05

## MEDICAL ASSOCIATION OF GEORGIA

*Disbursements Itemized*

May 1, 1946, to March 31, 1947

Check Number	Name	Amount
4654	Edgar D. Shanks, M. D. Travel; incidentals and expense in connection with Committee on Public Policy and Legislation May 1, 1945 to May 1, 1946 .....	\$ 302.00
4655	Spencer A. Kirkland, M. D. Expense in connection with Committee on Public Policy and Legislation 1946 .....	50.00
4656	Edgar H. Greene, M. D. Expense in connection with Committee on Public Policy and Legislation 1946 .....	50.00
4657	J. L. Campbell, M. D. Expense in connection with Committee on Public Policy and Legislation 1946 .....	50.00
4658	Viola Berry Expenses scientific and technical exhibits Macon session 1946 .....	100.00
4659	Miss Grace Carmichael Work at registration desk Macon session 1946 .....	25.00
4660	J. O. Morgan Public address system for four days at \$10.00, \$40.00; stage employee \$19.00, Macon session .....	59.00
4661	Percy D. Griffith Custodian of Auditorium, Macon .....	20.00
4662	James T. Frith Night watchman for four nights \$20.00 and \$10.00 for help, Macon .....	30.00
4663	Southern Bell Telephone & Telegraph Company Service to April 21, 1946 .....	11.00

4664—The Western Union Telegraph Company Telegrams .....	7.25	4687—Atlanta Linen Service Linen Service April and May 1946 .....	2.50
4665—Richardson & Koch Postal cards, 2000 and printing .....	27.50	4688—Putzel Electric Company For expenses in connection with labor and material to wire and remove wiring at City Auditorium for Macon session 1946 .....	196.73
4666—St. Louis Button Company 800 badges for the annual session of the Medical Association of Georgia, Macon 1946 .....	50.65	4689—A. M. Phillips, M. D. Expenses in connection with tables and labor Macon session 1946 .....	57.50
4667—S. E. McConnell Sons Company Kraft paper for use at the annual session of the Medical Association of Georgia, Macon 1946 .....	10.05	4690—Thompson Engraving Company Letterheads and envelopes for the Presi- dent, Ralph Hill Chaney, M. D., Au- gusta, 1946-1947 .....	42.50
4668—J. D. Grant Expenses for supervision and labor in connection with technical and scientific exhibits, Macon Session, 1946 .....	246.18	4691—Edgar D. Shanks, M. D. Salary for Secretary-Treasurer, May 1946 less income tax withheld from May salary .....	238.60
4669—Lon F. Livingston, Postmaster Postage .....	35.00	4692—Viola Berry Salary for Executive Secretary, May 1946, less income tax withheld from May salary .....	\$202.20
4670—B. H. Minchew, M. D. Stenographic services of reference com- mittee number 1, final report of the House of Delegates, Macon Session, 1946 .....	7.50	Incidental expenses, car fare, and etc. ....	15.00
4671—Brown Sign Company Making 5 cards for booths at City Auditorium, Macon, 1946 .....	13.00	4693—Member Pension from Benevolent Fund .....	30.00
4672—Carithers-Wallace-Courtenay, Inc. Office supplies .....	16.05	4694—Lon F. Livingston, Postmaster Postage .....	30.00
4673—Artercraft Engraving Company Cuts for The Journal .....	31.71	4695—Franklin Printing & Mfg. Company Printing and mailing 2300 copies of The Journal May 1946 .....	402.97
4674—Franklin Printing & Mfg. Company 800 programs for the Ninety-Sixth An- nual Session of the Medical Association of Georgia .....	160.50	4696—Lon F. Livingston, Postmaster Deposit for postage due .....	20.00
200 programs for the Woman's Auxiliary to the Medical Associa- tion of Georgia .....	56.25	4697—Southern Bell Telephone & Telegraph Company: Service to May 21, 1946 .....	10.04
4675—Franklin Printing & Mfg. Company Printing and mailing 2450 copies of The Journal, April 1946 .....	526.31	4698—The Western Union Telegraph Company Telegrams .....	1.13
4676—J. P. Pratt, M. D. Expenses on trip to annual session of the Association at Macon, 1946 .....	82.66	4699—Artercraft Engraving Company Four cuts and six mounts for The Journal .....	19.30
4677—Hotel Dempsey Expenses for rooms, meals, entertain- ment, telephone service, and secretarial help for invited guests to Macon Session 1946 .....	145.73	4700—Logan Clarke Insurance Agency, Inc. Premium on surety bond for Executive Secretary, FB261790 .....	5.00
4678—Railway Express Agency Express on material to and from Macon for annual session of the Association .....	1.57	4701—Edgar D. Shanks, M. D. Part payment on expenses as Secretary- Treasurer to A. M. A. 1946 session, San Francisco .....	300.00
4679—Ernest P. Tomlinson Engraving presidents keys for Dr. W. A. Selman and Dr. Cleveland Thompson .....	3.00	4702—Associated Mutuals, Inc. Policy No. GP111712—Medical Associa- tion of Georgia—\$3400.00 insurance on camera equipment for one year—effec- tive June 21, 1946 .....	57.80
4680—Oswald S. Lowsley, M. D. Expenses on trip to annual session of the Association at Macon 1946 as guest speaker .....	86.37	4703—Edgar D. Shanks, M. D. Salary for Secretary-Treasurer, June 1946, less income tax withheld from June salary .....	238.60
4681—Ralph H. Chaney, M. D. Honorarium for President 1946-1947 .....	300.00	4704—Viola Berry Salary for Executive Secretary, June 1946, less income tax withheld from June salary .....	202.20
4682—O. H. Weaver, M. D. Payment on expenses as delegate to A. M. A. 1946 session, San Francisco .....	300.00	4705—Mrs. G. R. Sims Extra secretarial work April 1, 1946 through June 29, 1946 .....	75.00
4683—Allen H. Bunce, M. D. Payment on expenses as delegate to A. M. A. 1946 session, San Francisco .....	300.00	4706—Member Pension from Benevolent Fund .....	30.00
4684—B. H. Minchew, M. D. Payment on expenses as delegate to A. M. A. 1946 session, San Francisco .....	300.00	4707—Lon F. Livingston, Postmaster Postage .....	30.00
4685—Fulton County Medical Society Gift to library of the Fulton County Medical Society, period May 23, 1946, to May 23, 1947 .....	500.00	3708—Collector of Internal Revenue, Atlanta Income tax withheld from salaries, April, May and June 1946: Edgar D. Shanks, M. D. ....	\$34.20
4686—Logan Clarke Insurance Agency, Inc. Premium on surety bond for Secretary- Treasurer for one year, FB-98062- ON3134A .....	5.00	Viola Berry .....	68.40
		4709—Atlanta Linen Service Linen service for June and July .....	2.50



4710—Addressograph-Multigraph Corporation Addressograph machine quarterly inspection .....	4.75	4735—Southern Bell Telephone & Telegraph Company Service to August 21, 1946 .....	8.71
4711—Register of Copyrights Deposit to pay 12 copyright fees for The Journal .....	24.00	4736—Atlanta Linen Service Linen service August and September 1946 .....	2.50
4712—Artercraft Engraving Company Cuts for The Journal .....	4.34	4737—A. B. Dick Company Semi-annual charges on mimeograph cleaning and lubrication order from September 1, 1946 through February 28, 1947 .....	9.28
4713—Franklin Printing & Mfg. Company Printing and mailing 2350 copies of The Journal June 1946 .....	673.22	4738—Searcy & Company Premium on fire insurance on material for scientific exhibits .....	11.50
4714—Grover Middlebrooks, Attorney Fee for attorney C. M. McClure, Toccoa in re: Mr. and Mrs. E. V. Loudermilk v. Dr. J. H. Terrell and Dr. C. J. Sapp .....	200.00	4739—Franklin Printing & Mfg. Company Printing and mailing 2350 copies of the August 1946 issue of The Journal .....	593.03
4715—Grover Middlebrooks, Attorney To retainer fee July 1, 1946 to Decem- ber 31, 1946 .....	500.00	4740—Artercraft Engraving Company Cuts and photographs of illustration for The Journal .....	35.70
4716—Southern Bell Telephone & Telegraph Company: Service to June 21, 1946 .....	9.59	4741—Grover Middlebrooks, Attorney Expenses to Reidsville and return re: Mrs. W. D. Ray v. Dr. A. C. Colson .....	39.70
4717—Edgar D. Shanks, M. D. Salary for Secretary-Treasurer, July 1946 less income tax withheld from July salary .....	238.60	4742—Pig 'n Whistle Sandwich Shop, Inc. Luncheon for Council meeting .....	29.80
4718—Viola Berry Salary for Executive Secretary, July 1946 less income tax withheld from July salary .....	202.20	4743—Edgar D. Shanks, M. D. Salary for Secretary-Treasurer, Septem- ber 1946, less income tax withheld from September salary .....	238.60
4719—Member Pension from Benevolent Fund .....	30.00	4744—Mrs. G. R. Sims Extra secretarial work July 1, 1946 through September 30, 1946 .....	75.00
4720—Lon F. Livingston, Postmaster Postage .....	30.00	4745—Viola Berry Salary for Executive Secretary, Septem- ber 1946, less income tax withheld from September salary .....	202.20
4721—Lon F. Livingston, Postmaster Postage to cover mailings of The Journal .....	50.00	4746—Lon F. Livingston, Postmaster Postage .....	30.00
4722—Southern Bell Telephone & Telegraph Company Service to July 21, 1946 .....	7.38	4747—Member Pension from Benevolent Fund .....	30.00
4723—The Western Union Telegraph Company Telegrams .....	7.79	4748—Collector of Internal Revenue, Atlanta Income tax withheld from salaries July, August, and September 1946: Edgar D. Shanks, M. D. .... \$34.20 Viola Berry .....	68.40
4724—Carithers—Wallace-Courtenay, Inc. Office supplies .....	4.80	4749—Viola Berry Commission on local ads October 1, 1945 through September 30, 1946 .....	253.94
4725—Franklin Printing & Mfg. Company Printing and mailing 2400 copies of The Journal July 1946 .....	631.36	4750—Southern Bell Telephone & Telegraph Company Service to September 21, 1946 .....	9.34
4726—Associated Mutuals, Inc. Fire insurance on office furniture, fix- tures, equipment, etc. \$2,000.00 for one year. Policy No. 2729453 .....	3.38	4751—Franklin Printing & Mfg. Company Printing and mailing 2350 copies of the September 1946 issue of The Journal ..	728.30
4727—Southern Press Clipping Bureau News clippings furnished January through July—\$5.00 per month .....	35.00	4752—Artercraft Engraving Company Cut for The Journal .....	2.77
4728—Eddie Thompson Janitor service January 1 through Au- gust 31, 1946 .....	35.00	4753—Carithers-Wallace-Courtenay, Inc. Office supplies .....	5.25
4729—Miss Winifred McLean Stenographic report of the Macon ses- sion, May 7-10, 1946, of general meet- ings, House of Delegates and minutes of Council .....	350.00	4754—Addressograph-Multigraph Corporation Quarterly inspection of multigraph ma- chine and supplies .....	9.17
4730—Edgar D. Shanks, M. D. Salary for Secretary-Treasurer, August 1946 less income tax withheld from August salary .....	238.60	4755—The Citizens & Southern National Bank Transferring checking account to the Citizens & Southern National Bank— Main Office .....	\$18,218.04
4731—Viola Berry Salary for Executive Secretary, August 1946 less income tax withheld from August salary .....	202.20	4756—Grover Middlebrooks, Attorney Fee for Attorney P. M. Anderson in re: Ray v. Dr. A. C. Colson, Glennville, Ga. ....	350.00
4732—Member Pension from Benevolent Fund .....	30.00	4757—Chas. F. Richardson & Company Printing and furnishing 1900 postal cards regarding Veterans Administration ..	47.50
4733—Lon F. Livingston, Postmaster Postage .....	30.00	4758—J. L. Campbell, M. D. Expense Cancer Commission .....	150.00
4734—Citizens & Southern National Bank Safe deposit box for one year with tax ..	6.00	4759—Edgar D. Shanks, M. D. Salary for Secretary-Treasurer October 1946 less income tax withheld from October salary .....	238.60

4760—Viola Berry Salary for Executive Secretary October 1946 less income tax withheld from October salary .....	202.20	Extra secretarial help October 1—December 31, 1946 .....	150.00
4761—Member Pension from Benevolent Fund .....	30.00	4786—Viola Berry In appreciation—Christmas 1946 .....	150.00
4762—Lon F. Livingston, Postmaster Postage .....	40.00	4787—Lon F. Livingston, Postmaster Postage to cover mailings of The Journal .....	100.00
4763—Southern Bell Telephone & Telegraph Company Service to October 21, 1946 .....	9.11	4788—Southern Press Clipping Bureau Clippings furnished during August through December 1946 .....	25.00
4764—The Western Union Telegraph Company Telegrams .....	64.58	4789—Edgar D. Shanks, M. D. Salary for Secretary-Treasurer December 1946 less income tax withheld from December salary .....	238.60
4765—Franklin Printing & Mfg. Company Printing and mailing 2350 copies of The Journal October 1946 .....	675.74	4790—Viola Berry Salary for Executive Secretary December 1946 less income tax withheld from December salary .....	202.20
4766—Artafact Engraving Company Cuts of illustration for The Journal .....	29.40	4791—Member Pension from Benevolent Fund .....	30.00
4767—Atlanta Linen Service Linen service for October and November 1946 .....	2.50	4792—Collector of Internal Revenue, Atlanta Income tax withheld from salaries October, November and December 1946: Edgar D. Shanks, M. D. .... \$34.20 Viola Berry .....	102.60
4768—Jack C. Norris, M. D. Expenses as delegate to meeting of the House of Delegates of the A. M. A., Chicago, December 9-11, 1946 .....	150.00	4793—Georgia Power Company Fluorescent lamps with tax .....	4.30
4769—Dr. O. H. Weaver Expenses as delegate to meeting of the House of Delegates of the A. M. A., Chicago, December 9-11, 1946 .....	150.00	4794—Southern Bell Telephone & Telegraph Company Service to December 21, 1946 .....	8.35
4770—Dr. Allen H. Bunce Expenses as delegate to meeting of the House of Delegates of the A. M. A., Chicago, December 9-11, 1946 .....	150.00	4795—Franklin Printing & Mfg. Company Printing and mailing 2600 copies of the December 1946 Journal .....	1,034.97
4771—Edgar D. Shanks, M. D. Payment on expenses for special representative to attend the meeting of the House of Delegates of the A. M. A., Chicago, December 9-11, 1946 .....	150.00	4796—Artafact Engraving Company Cuts for The Journal .....	28.89
4772—Lon F. Livingston, Postmaster Postage .....	30.00	4797—J. B. Richards Printing Company Membership cards "1947", 2000 .....	21.75
4773—Edgar D. Shanks, M. D. Salary for Secretary-Treasurer November 1946 less income tax withheld from November salary .....	238.60	4798—Chas. F. Richardson & Company 1900 Postal cards and printing .. \$27.00 50 printed messages .....	30.50
4774—Viola Berry Salary for Executive Secretary November 1946 less income tax withheld from November salary .....	202.20	4799—Grover Middlebrooks, Attorney Retainer fee January 1, 1947 through June 30, 1947 .....	500.00
4775—Member Pension from Benevolent Fund .....	30.00	4800—Lon F. Livingston, Postmaster Postage .....	40.00
4776—Home Builder's Plan Service Drawings for floor plan of the Bon Air Hotel for exhibit space 1947 annual session at Augusta .....	16.46	4801—American Medical Association One year's subscription to: The Journal A. M. A.; Hygeia and the Quarterly Cumulative Index Medicus .....	22.50
4777—Artafact Engraving Company Cuts of illustration for The Journal .....	6.10	4802—Edgar D. Shanks, M. D. Salary for Secretary-Treasurer January 1947 less income tax withheld from January salary .....	238.60
4778—Home Builder's Plan Service One drawing of floor plan of Bon Air Hotel, Augusta for exhibit space for 1947 .....	10.00	4803—Viola Berry Salary for Executive Secretary January 1947 less income tax withheld from January salary .....	202.20
4779—Southern Bell Telephone & Telegraph Company Service to November 21, 1946 .....	13.44	4804—Member Pension from Benevolent Fund .....	30.00
4780—Franklin Printing & Mfg. Company Printing and mailing 2350 copies of The Journal November 1946 .....	754.96	4805—Biltmore Hotel Luncheon Committee on Scientific Work .....	22.80
4781—Carithers-Wallace-Courtenay, Inc. Office supplies .....	11.65	4806—The Citizens & Southern National Bank Printing and binding 5,000 checks .....	60.50
4782—Addressograph-Multigraph Corporation Service on addressograph machine .....	5.45	4807—Southern Bell Telephone & Telegraph Company Service to January 21, 1947 .....	9.66
4783—Lon F. Livingston, Postmaster Postage .....	40.00	4808—Atlanta Linen Service Linen service December 1946 and January 1947 .....	4.35
4784—Eddie Thompson Janitor service August through December 31, 1946 .....	26.00	4809—Carithers-Wallace-Courtenay, Inc. Office supplies .....	5.00
4785—Mrs. G. R. Sims		4810—Franklin Printing & Mfg. Company Printing and mailing 2400 copies of The Journal January 1947 .....	775.87
		4811—Artafact Engraving Company Cuts of illustration for The Journal .....	29.54
		4812—Lon F. Livingston, Postmaster Postage .....	40.00
		4813—The National Library Bindery Company Binding 12 vols. of 1946 Journals .....	34.20



4814—M & R Dietetic Laboratories, Inc. Refund of half the amount paid for exhibit space .....	66.15
4815—Herff-Jones Company, Inc. Two Gold President's Keys—Dr. Ralph Hill Chaney and Dr. Steve Kenyon .....	20.80
4816—Edgar D. Shanks, M. D. Salary for Secretary-Treasurer Febru- ary 1947, less income tax withheld from February salary .....	238.60
4817—Viola Berry Salary for Executive Secretary February 1947, less income tax withheld from February salary .....	202.20
4818—Member Pension from Benevolent Fund .....	30.00
4819—Rich's, Inc. Portable typewriter .....	89.57
4820—Federal Reserve Bank, Atlanta One \$5,000 U. S. Government Bond, Series G, and one \$10,000 U. S. Gov- ernment Bond, Series G .....	15,000.00
4821—Southern Bell Telephone & Telegraph Company Service to February 21, 1947 .....	10.61
4822—Franklin Printing & Mfg. Company Printing and mailing 2400 copies of The Journal February 1947 .....	785.23
4823—Franklin Printing & Mfg. Company Extra charges for corrections and re- makeups on February 1947 Journal .....	44.00
4824—Remington Rand, Inc. One Remington Electric Portable Add- ing Machine 93100-5 93N-469602 \$303.00 plus Federal Excise Tax .....	321.18
4825—Artercraft Engraving Company Cuts of illustration for The Journal ....	51.40
4826—A. B. Dick Company Mimeograph stencil sheets 3.50; semi- annual charges on mimeograph cleaning and lubrication March 1 through Au- gust 30, 1947 \$12.00 .....	15.50
4827—St. Louis Button Company 900 badges for the Augusta Session, April 22-25, 1947 .....	92.93
4828—Lon F. Livingston, Postmaster Postage .....	45.00
4829—Void	
4830—Joe Boone, Clerk House of Representa- tives; Expenses Public Policy and Legislation (outstanding) .....	50.00
4831—Edgar D. Shanks, M. D. Salary for Secretary-Treasurer March 1947 less income tax withheld from March salary .....	238.60
4832—Viola Berry Salary for Executive Secretary March 1947 less income tax withheld from March salary .....	202.20
4833—Mrs. C. R. Sims Extra secretarial help January 1 through March 31, 1947 .....	75.00
(outstanding)	
4834—Member Pension from Benevolent Fund .....	30.00
(outstanding)	
4835—Collector of Internal Revenue, Atlanta Income tax withheld from salaries Janu- ary, February and March 1947: Edgar D. Shanks, M. D. .... \$34.20 Viola Berry .....	68.40
(outstanding)	102.60
4836—Lon F. Livingston, Postmaster Postage .....	35.00
(outstanding)	
Exchange on non-par checks .....	7.80
Total .....	\$37,970.88

## MEDICAL PUBLICATIONS NEEDED OVERSEAS

As a result of war and persecution, doctors, dentists and technicians in allied fields throughout Europe have been deprived for more than ten years of news of the latest developments in their professions—the kind of news and analysis contained in this journal.

When you have finished this issue, put it to work by sending it to the SOS (Supplies for Overseas Survivors) Collection of the Joint Distribution Committee, 1 West 39 Street, New York 18, N. Y. It will be placed in a library in a D. P. camp, child care center, hospital or school, for use by professionals desperately anxious to bring themselves up-to-date on the knowledge forcibly kept from them by the Nazis.

## WATER SAFETY

Summer vacations at the lake or seashore can be fun—and you can have better assurance of living to tell about your good times—if you go equipped with some words of water wisdom from your doctor of medicine.

The primary rule for a good vacation is: Know where to find a doctor of medicine, a hospital or ambulance if an emergency should arise.

Water safety is as important to the expert swimmer as to the novice. Make it a rule to wait one hour after meals to go swimming and then always go with someone else. Swim at guarded beaches, during daylight hours, and be content to stay on the beach when the water is so cold it will overchill the body.

Learn to know your ability in swimming and get out of the water before becoming chilled or overtired. It is wise to learn to float so that you can rest on the water when you become tired or exhausted. If you enjoy diving, remember to test the water depth before you try the springboard.

If you don't swim, you may live longer if you refuse to go out in a canoe or rowboat. Inspect a boat for leaks before you push out from shore and don't try to take along that extra person who would overload the boat. It pays to keep a weather eye open when boating and to head for shore if a storm is coming up.

Accidents will happen even when all of these precautions are observed. If and when they strike, lose no time in getting a doctor of medicine to the scene of the accident or in getting the victim to a hospital. —*Health News*, Michigan State Medical Society.

ARMY USES GERMAN HOSPITAL  
FOR HEPATITIS RESEARCH

One of Hitler's "Youth Through Joy" hospitals which was probably the finest establishment of its kind in the world has been taken over as an American Army research center for study of infectious hepatitis.

This hospital is at Bayreuth in Bavaria. A laboratory for the same study has been set up at the University of Heidelberg.

The causative organism and method of transmission of hepatitis, or jaundice, which first attracted wide attention during the war, thus far have defied detection. It is a malady characterized by fever, nausea and abdominal disturbances—usually accompanied by the yellow color associated with jaundice.

Thus far it has been established that it is due to a filterable virus. The virus itself has not been isolated. It has not been possible to find any experimental animal which is subject to the malady.

The virus is known to be extremely infective, but there is no agreement as to how the disease is spread or as to its incubation period. There is some evidence that the virus is spread from person to person in water. There also is some reason to believe that the disease is much more common than generally supposed and that it often appears, like the better known poliomyelitis, in a subclinical form which is not recognized by the victim.

The study in Germany is being carried out under the direction of the Commission of Virus and Rickettsial Disease of the Army Epidemiological Board.



## WOMAN'S AUXILIARY TO THE MEDICAL ASSOCIATION OF GEORGIA

## AUXILIARY NEWS

At the State Convention in Augusta a resolution was adopted that a conference for State Presidents, Presidents-elect, State Officers, Chairmen of Standing Committees, District Managers, County Presidents and Presidents-elect be held for an exchange of ideas and free discussion of problems and achievements. This meeting will be held in conjunction with the joint meeting of the Advisory Committee and Executive Board. Dr. J. A. Redfearn, Albany, Chairman of the Advisory Committee, will preside.

Mrs. W. G. Elliott, Cuthbert, President of the Woman's Auxiliary to the Medical Association of Georgia, will preside at the board meeting August 5, at 2:30 P. M., at the Academy of Medicine in Atlanta, and plans for the year will be presented to the Advisory Committee. The conference will begin at 9 A. M. August 6. A luncheon at the Biltmore Hotel at 1:00 P. M., will honor Mrs. Eustace Allen, Atlanta, President of the Woman's Auxiliary to the American Medical Association and Mrs. Olin Cofer, Atlanta, President of the Woman's Auxiliary to the Southern Medical Association. Mrs. M. T. Edgerton, Atlanta, President of the Fulton County Medical Society Auxiliary, is in charge of the luncheon. Other guests will be Dr. J. A. Redfearn, Albany; Dr. Steve Kenyon, Dawson, President of the Medical Association of Georgia; Dr. Edgar H. Greene, Atlanta, President-elect, Medical Association of Georgia; Dr. Edgar Shanks, Atlanta, Secretary and Editor of *The Journal*, and members of the Advisory Committee, Dr. James N. Brawner, Atlanta; Dr. W. G. Elliott, Cuthbert; Dr. J. E. Penland, Waycross; Dr. R. C. McGahee, Augusta, and Dr. W. Bruce Schaefer, Toccoa.

*The Bulletin*

Are you a subscriber for *The Bulletin*—the magazine issued by Woman's Auxiliary to the American Medical Association? An affirmative answer to this question will almost surely place your name in the category of members known to be active, interested and well informed concerning the objectives, plans and accomplishments of the Auxiliary. A negative answer will probably characterize you as one of those mem-

bers who knows very little of the workings of the organization, and possibly cares less—one of those women who joined the Auxiliary "because most of the doctors wives seemed to think it was the thing to do."

If the medical profession is the world's greatest agency of mercy to suffering humanity, then any movement projected as an auxiliary to this agency is worthy of the very best service that can be offered by its membership. To render intelligent service, the ideals, the aims, the needs, the working plans of the organization all must be considered and understood. Many of these plans and problems are presented in *The Bulletin*. Ways and means are suggested and solutions are discussed.

Did you know that there is an alarming shortage in enrolment in schools of nursing? Read your bulletin and learn about the 1947-48 Student Nurse Recruiting Program. Did you know that the care of chronically ill patients is fast becoming a greater health problem than ministering to the acutely sick? Did you know that the U. S. Public Health Service has been allotted \$2,500,000 for increased activity in the study of cancer control, and that research is being made in the field of atomic power to discover its possible effect on cancer?

Can you enter into an intelligent conversation with your doctor husband or friend concerning the merits or disadvantages of socialized medicine, or does he have to seek elsewhere for an understanding discussion of the subject? Subscribe for *The Bulletin*, the organ of your Auxiliary, and become posted along these and other health lines. It is no sin to be ignorant of a matter, but it is culpable to continue in ignorance when information is so readily at hand. We subscribe for magazines of fashion, fiction, flowers and fun. Is not health more important than any of these?

*The Bulletin* is published quarterly, and may be had for \$1.00 per year. Please send your subscription to Mrs. W. L. Curtis, State Chairman, 302 W. Rugby Ave., College Park.

MRS. W. L. CURTIS.

**THE JOURNAL**

OF THE

MEDICAL ASSOCIATION OF GEORGIA

478 Peachtree Street, N. E., Atlanta, Ga.

AUGUST, 1947

**STREPTOMYCIN IN GRANULOMA  
INGUINALE**

The hope of eradicating granuloma inguinale from our midst is no longer a will-o'-the-wisp, but a growing possibility.

The tragic socio-economic aspects of granuloma inguinale are well known. It is a disease prevalent among the poorest and lowest in the social stratum. Poverty begets granuloma inguinale and granuloma inguinale breeds greater poverty.

Granuloma inguinale is indigenous to the Southern States and wherever Negro communities burgeon in the North and West. It is occasionally seen in "poor whites". It may be said that the incidence of this disease in any one state or community is an index of the existing public health conditions. Regretfully we face the fact that Georgia has its full share of such cases.

Heretofore, the antimonials have been used with indifferent success in the therapy of granuloma inguinale. Recurrences have been many and chemoresistant cases frequent. The need for prolonged therapy, the inadequacy of treatment centers, and the apathy of the medical profession at large have contributed much to the problem.

The group working on granuloma inguinale at the University of Georgia School of Medicine found that streptomycin proved specific in the therapy of granuloma inguinale. This group recently reported their observations on 59 patients with granuloma inguinale treated with streptomycin. Many of the patients had foul, loathsome ulcerations of from eight to twelve years' duration, and were healed of their grievous

wounds in 10 to 20 days. A treatment schedule of four grams of streptomycin per day for five days has been found adequate and rapid. Through the generosity and co-operation of the United States Public Health Service ten beds are available at the University Hospital in Augusta for the management of such cases, and this facility is offered to the physicians of Georgia.

The opportunity for Georgia to lead the way in eradicating this canker from our midst and in removing the blot upon the public health escutcheon of the State is at hand.

ROBERT B. GREENBLATT, M.D.

**MEDICAL EDUCATION AND  
MEDICAL CARE**

It is desirable that now and during the months to come the physicians of this State consider a plan recently proposed for the improvement of medical education and medical care in state institutions and of medical care as a whole.

This plan envisions the creation by the State Legislature of a State Hospital Authority made up in a manner similar to the Board of Regents of the University System, and entrusted with the control of all state institutions in which patients are treated (or of such parts of such institutions in which patients are treated). The proposed plan includes a stipulation in the law that the hospital authority shall delegate to the faculties of the approved medical schools in the State the professional care of all patients in such institutions or infirmaries. Such a central business management of these institutions for the care of the sick should effect a great saving in money in addition to other benefits of a medical nature.

*The JOURNAL would like to record the scientific work of Georgia doctors. It earnestly requests, therefore, that each physician in the State who publishes a contribution in some other medical periodical submit an abstract of the article for these columns.*

At the present time the Battey State Hospital is conducted by the State Health Department, which is a department of preventive medicine rather than therapeutic medicine. Milledgeville State Hospital and the Gracewood Hospital for Feeble-minded Children are at present under the control of the State Welfare Department, while the infirmaries for men and women patients at the Tattnall Prison are under the control of the Department of Corrections.

As everyone knows, it is very difficult to obtain suitable personnel for treatment of the patients in these institutions. All of them at present are understaffed, and this is particularly true of Milledgeville State Hospital.

The proposed plan would place all of these institutions on a teaching basis, and the graduating class of the State Medical School would be required to serve a compulsory year of internship. This year would be spent in the State Hospital and in the hospitals on the medical school campus. The Macon and Columbus City hospitals have already asked to be included in this rotating internship. Clinical faculty members of professorial rank would be stationed in these institutions and many more assistant residents and residents could be accommodated for postgraduate medical training than is now the case.

The undergraduate medical student would benefit by having ample clinical material during his four-year medical course, and the postgraduate medical student after his required year of internship would have a greater opportunity to obtain one or more years of additional hospital training, which, with proper personnel in these institutions, would lead to eligibility for board certifying examinations. The inmates of the institutions would receive care from a much larger staff, under conditions such as are found in teaching hospitals. The population of the State as a whole would benefit

through the improvement of medical education received by young physicians trained under these conditions. The management of all the hospitals by a central authority would be more business-like and more economical.

In the field of medical education and medical care these recommendations are possibly revolutionary, but they are certainly not reactionary. They are definitely progressive and the promulgation of this plan would put Georgia in the vanguard of states in the realm of medical education and medical care.

G. LOMBARD KELLY, M.D.

#### FEDERAL FUNDS AVAILABLE FOR HOSPITAL CONSTRUCTION

Construction of 225 million dollars' worth of hospital and health facilities during the fiscal year of 1948, ending June 30 next year, will be possible under the appropriations act signed by the President on July 8. Thomas Parran, Surgeon General, U. S. Public Health Service, Federal Security Agency, announced recently.

Although no Federal funds were directly appropriated for this purpose, the act, as Dr. Parran explained, sets up a procedure, patterned after the program of Federal aid for highway construction, which obligates the Federal government to pay up to \$75,000,000 as its share of approved hospital construction. Since the Federal government pays one-third of the cost, this brings the potential combined total of Federal, State and local funds to \$225,000,000. Under this arrangement states need not delay their hospital construction plans since they have the assurance that any construction project approved by the Surgeon General creates a contractual obligation on the part of the Federal government to meet its one-third share of the cost.

This legislation implements the construction phase of the Hospital Survey and Construction Act passed by Congress last year, authorizing the appropriation of three million dollars for survey and planning and 75 million dollars for construction annually for five years. Two and a quarter million dollars was appropriated last year to assist the states in surveying existing hospital facilities. The 75 million dollars just appropriated for the fiscal year 1948 is the first money to be made available for construction. Funds may be used for health centers, laboratories, clinics and other medical facilities, as well as for hospitals.

All states and territories, including the Dis-



trict of Columbia, are conducting inventories of their hospitals and health facilities. So far three state construction plans have been approved and it is expected that more than half of the states will have submitted their plans by fall. The states whose plans have been approved are Indiana, Mississippi and North Carolina.

#### POLIOMYELITIS CAN BE DIAGNOSED WITHIN 24 HOURS OF ONSET

Diagnosis of infantile paralysis can usually be made within 24 hours of the onset of the disease, according to John F. Pohl, M.D., of Minneapolis, and treatment should begin immediately in order to relieve the discomfort of patients and to minimize crippling.

Writing in the July 26 issue of *The Journal of the American Medical Association*, Dr. Pohl, who is from the Elizabeth Kenny Institute, states that "an analysis of 1,125 cases of poliomyelitis treated in Minneapolis during the 1916 epidemic reveals that the symptoms and observations are sufficiently characteristic to enable the diagnosis to be established in most patients within 24 hours of the onset. The study also discloses that paralysis is not a useful diagnostic sign because paralysis or weakness of the muscles is not a common early event and in a considerable number of cases does not occur at all. To await the appearance of paralysis to confirm the diagnosis or to begin treatment is inadvisable."

Of the 1,125 cases, 736 or 65.4 per cent progressed to paralysis of some degree within 15 days of onset but 389 or 34.6 per cent did not show paralysis at any time. Sixty-eight patients or six per cent died.

Symptoms of the first 24 hours are: headache, fever, nausea, vomiting, loss of appetite, stiff neck, stiff back, painful arms and legs and general malaise with listlessness.

#### MEDICAL GROUPS ABROAD PRESENT A.M.A. WITH MANY PRICELESS GIFTS

When the American Medical Association observed its centennial birthday in Atlantic City recently, it was presented with many gifts to commemorate the occasion. Representatives of many medical associations from foreign countries presented the A. M. A. with treasured medical books, silver and gold medals, paintings and scrolls.

Dr. Guy Dain, chairman of the Council of the British Medical Association, presented the House of Delegates of the American Medical Association with a gavel and block which, he said, "may tie the two countries perhaps a little closer together."

Dr. Dain explained that the gavel and block, which will be used by the Speaker of the House of Delegates of the A. M. A., was made from the wood of the mulberry tree which stood in Charles Dickens' garden at Tavistock House in

London when he lived there between 1851 and 1860 and wrote such books as "Little Dorrit" and "Great Expectations."

"When we took over the property on which the British Medical Association House is built," Dr. Dain told the House of Delegates, "that mulberry tree was standing there and, unfortunately, it had to be cut down."

He explained that "this bit of wood with an inscription from the British Medical Association is a token of our good will and our good wishes for the next hundred years."

The gift was accepted on behalf of the A. M. A. by Dr. George F. Lull, secretary and general manager.

Another gift—a priceless medical book—was presented to the A. M. A. by Dr. Einar Geert-Jorgensen, senior physician of the Municipal Hospital of Copenhagen, chairman of the Danish Neurological Society and representative of the Danish Medical Association.

The book, *Acta Medica Bartholini*, published in 1671, was the first medical paper in Denmark and was edited by the famous Danish scientist and physician, Thomas Bartholini.

Dr. Szeming Sze, official delegate from the Chinese Medical Association and the Republic of China, presented the A. M. A. with a scroll, written in Chinese.

The scroll, with a painting of a pine tree, which in China is emblematic of longevity, contained an inscription suitable to the occasion. It closed with this verse: "Long life to the profession which gives long life to mankind and humanity."

#### BIRTHS EXCEED ONE AND ONE-HALF MILLION IN FIRST FIVE MONTHS OF 1947

Births in May 1947 are estimated to have numbered 302,000 in the United States, according to figures released by the National Office of Vital Statistics, U. S. Public Health Service recently. This is 29 per cent more than the estimate for May of last year and it brings the total for the first five months of this year to 1,572,000.

Although the birth rate of 26.4 per 1,000 population including the armed forces overseas for the 5-month period January to May, 1947 was nearly 40 per cent higher than the provisional rate of 19.1 for the corresponding period of 1946, the birth rate has been lower this year than it was in the last four months of 1946 when it reached record breaking heights. The decrease has taken place in spite of the fact that publications of this office show that the numbers of marriages reported 10 to 12 months ago and throughout 1946 were unusually large. It is possible that the peak in the birth rate in the latter months of 1946 was due not only to first births to newly-married couples, but also to births to families who already had children and first births to couples married before or during the war. The fact that the birth rate has decreased while marriages remained high suggests that now second and third births to established families and first births to persons married more than one year are adding less to the birth rate than they did at the end of last year.

The estimated number of births in each of the 46 States reporting monthly and the District of Columbia appear in the Monthly Vital Statistics Bulletin released by this office.

## GEORGIA DEPARTMENT OF PUBLIC HEALTH

### EVALUATION OF LAY EDUCATION IN CANCER CONTROL

During recent years an increasing interest in cancer control has been evident in all parts of the United States. Ten years ago when the Georgia Cancer Law providing for the care of indigent patients was enacted, only three other states had comparable programs. Since that time many additional states have either inaugurated control programs or are contemplating doing so in the near future.

The initial impetus leading to better care for cancer patients was provided by the American Cancer Society and the American College of Surgeons, assisted in many areas by local groups and individuals who were vitally interested in the problem. Beginning more than two decades ago emphasis was directed toward the provision of more adequate facilities for the treatment of cancer. Over a period of years approved cancer clinics appeared in increasing numbers in most sections of the country.

It has long been recognized, however, that the provision of adequate diagnostic and treatment facilities solves only one of the problems encountered in this field. Of equal importance is early case-finding. Unless the cancer patient reports for treatment while the disease is still curable, it is obvious that even the finest facilities will prove inadequate.

Since it is the rule rather than the exception for cancer patients to delay until the disease has reached an advanced stage, a program of lay education has come to be accepted as an essential part of any control program. Efforts in this respect are directed primarily toward making the laity familiar with the early symptoms of cancer, assuring them that early cancer is curable and urging them to seek medical advice as soon as the first symptoms appear.

In Georgia, lay education has been a basic part of the cancer program since it was inaugurated 10 years ago. Although the initial efforts were necessarily limited and dramatic results should not as yet be anticipated, it is desirable to evaluate the effects of the program by whatever means are at hand. Several methods have been employed.

Certain cancers may be grouped according to the extent of the lesion at the time the patient comes under observation. Over a period of years, an increase in the percentage of early lesions would indicate a trend toward earlier reporting. Among white patients with breast cancer reporting to the state-aid clinics, a gradual increase has been noted in the percentage of lesions which fall in group 1. During the early years of the program about 14 per cent of breast lesions were so classified, while during

the past few years the figure has approached 24 per cent. No improvement in this respect has been observed among colored patients with breast cancer.

Among white patients with cervical cancer, a similar increase has been noted in the percentage of lesions confined to the cervix. The improvement is comparable to that observed among breast cases. On the other hand, colored patients have failed to show any appreciable improvement in this respect.

A study of the average duration of symptoms among patients with similar types of lesions has also been employed to evaluate the effect of the educational program. For white patients with cancer of the cervix the average duration of symptoms prior to the first clinic visit decreased from 10.5 months during the period 1937-39 to 7.0 months during the years 1943-45. Among colored patients with cancer of the cervix, the decline in the average length of symptoms during the same period of time was too small to be considered significant.

The above studies indicate a trend toward earlier reporting on the part of white patients but little or no improvement on the part of colored patients. If the studies are accurate, the trend among white patients should be reflected in a rising cure rate which, of course, is the most satisfactory measure by which results may be evaluated.

Since apparent freedom from disease for an arbitrary period of 5 years is the usual criterion of cure, only the results obtained during the early years of the program are available for study. Nevertheless, a comparison of the cure rates during succeeding years will provide some indication as to whether the results are in line with those observed in the studies outlined above.

The Georgia program, after getting under way in November, 1937, was discontinued for a period of 6 months in 1939. It will be convenient, therefore, to combine the cases treated during the years 1937-39 and compare the results with those obtained during 1940. In the table below is shown the cure rates for the two periods. Only the more common forms of cancer are compared separately. The figures represent percentages and are adjusted to the nearest whole number.

Table 1. *Percentage of Five-Year Cancer Cures*

Site	1937-39	1940
Lower lip .....	62 per cent	53 per cent
Mouth and pharynx .....	9 per cent	13 per cent
Breast .....	20 per cent	18 per cent
Uterus .....	20 per cent	22 per cent
Male Genital .....	24 per cent	38 per cent
All others (except skin) .....	9 per cent	14 per cent
Totals .....	20 per cent	22 per cent



The figures for the two years are quite similar, the differences being so slight that they might well have been due to chance. Nevertheless, the apparent improvement in the results for 1940 is about what might have been anticipated.

Although no conclusions are justified on the basis of the above figures, the findings tend to have greater significance when considered in connection with certain other factors. Previous studies indicate that colored patients tend to report with more advanced lesions than white patients. If true, any relative increase in colored patients would tend to lower the over-all cure rate. Actually, an appreciable increase has been observed year by year with respect to colored females, especially those with lesions of the breast and cervix.

In the table below is shown the cure rates for white and colored patients with cancers of the breast and cervix. The two types of lesions have been considered together in order that the figures might be large enough to have some significance.

Table 2. *Percentage of Cures for Cancers of Breast and Cervix*

	1937-39	1940
White .....	27 per cent	31 per cent
Colored .....	16 per cent	13 per cent

The lower percentage of cures among colored cases during both periods is in agreement with previous studies. Also in agreement is the apparent improvement of the cure rate among white patients in 1940 and the lack of improvement in colored cases.

Actually, the cure rate for colored cases declined in 1940. Although this might be explained on the basis of chance, available evidence suggests that other factors may have been responsible. An appreciable number of colored patients, who applied for state-aid during the six months in 1939 when the program was not in operation, failed to obtain treatment that year but reported early in 1940. This would tend to increase the proportion of patients with advanced lesions who came under observation in the latter year. As supporting evidence, figures are available to show that the percentage of colored patients with lesions of the breast and cervix who died within one year of the date they reported to the clinics increased from approximately 49 per cent during the years 1937-39 to 58 per cent in 1940. There was no increase in this respect among white patients.

On the whole, the evidence relating to cure rates agrees closely with that obtained through studies dealing with the duration of symptoms and the grouping of lesions at the time of first observation. Moreover, in spite of certain factors which would tend to lower the cure rate in 1940, an improvement in this respect was

observed. Considered collectively, all available evidence indicates a definite trend toward earlier reporting on the part of white patients. While several factors may have contributed to this improvement, it would be reasonable to assume that lay education played a conspicuous part. In view of the fact that it was directed chiefly toward white groups in the past, the favorable trend among white patients and the lack of any improvement in the colored adds weight to the assumption that lay education has exerted a beneficial influence.

WM. J. MURPHY, *Director*  
*Division of Cancer Control.*

#### THE AMERICAN CONGRESS OF PHYSICAL MEDICINE

Will hold its twenty-fifth annual scientific and clinical session Sept. 2, 3, 4, 5 and 6 inclusive, at the Hotel Radisson, Minneapolis. Scientific and clinical sessions will be given the days of Sept. 3, 4, 5, and 6. All sessions will be open to members of the medical profession in good standing with the American Medical Association. In addition to the scientific sessions, the annual instruction courses will be held Sept. 2, 3, 4 and 5. These courses will be open to physicians and the therapists registered with the American Registry of Physical Therapy Technicians. For information concerning the convention and the instruction course, address the American Congress of Physical Medicine, 30 North Michigan Avenue, Chicago, Illinois.

#### SURGEONS TO MEET

The International College of Surgeons, United States Chapter, will hold its Twelfth Annual Assembly and Convocation in Chicago, September 28 to October 4, 1947.

The program will include operative and nonoperative clinics, demonstrations, symposia, forums, medical motion pictures, exhibits and the formal dedication of the new library and permanent home of the United States Chapter. All meetings, with the exception of the operative clinics, will be held in the Palmer House and the Stevens Hotel.

The Cook County Hospital of Chicago has reserved Friday, October 3, for operative clinics, round table discussions and demonstrations for the attending Fellows of the College. Twenty other hospitals of Chicago will be hosts at surgical clinics and demonstrations on October 4.

General chairman of the meeting is Raymond W. Nealy, M.D., Chicago; and co-chairmen are Karl Meyer, M.D. and Max Thorek, M.D., of Chicago.

Louis J. Garipey, M.D. of Detroit, secretary of the U. S. Chapter, announced that the annual meeting of the House of Delegates and election of officers would be held on September 28 and 29 immediately preceding the Assembly and Convocation. Presiding will be President Herbert Acuff, M.D. of Knoxville, Tenn.

Copy of the program and detailed information may be obtained by writing Max Thorek, M.D., co-chairman, 1516 Lake Shore Drive, Chicago, Illinois.

#### NEW FEVER THERMOMETER

Dialvue Fever Thermometer is a precision instrument of great accuracy and durability. The instrument consists of a thermocouple device housed in the stem of the thermometer which is extremely sensitive and accurate. A dial on which the temperature is recorded is so easily read that anyone can read it. Dialvue thermometers are guaranteed for 2 years, but should last you almost a lifetime if subjected to ordinary usage and given proper care. Migor Thermometer Co., 98 Fifth Avenue, New York 11, N. Y.



## NEWS ITEMS

Dr. Donald E. Beard, Atlanta, announces the opening of his office for the practice of urology, suite 233 Doctors Building, 490 Peachtree Street, N. E., Atlanta.

\* \* \*

Dr. R. V. Brandon, McDonough, announces the opening of a branch office in Locust Grove and will devote a part of his time to practice in that community. He is using the office of the late Dr. E. G. Colvin.

\* \* \*

Dr. Randall G. Brown, Swainsboro, announces the opening of his offices and hospital accommodations in the Swainsboro Infirmary, Church Street, Swainsboro. Dr. Brown has installed in his infirmary the most modern equipment and has a complete nursing and medical staff. The hospital is equipped for obstetrics and general surgery, as well as for handling general medical needs.

\* \* \*

Dr. Frank W. Buckner, formerly of Chattanooga, Tenn., announces the opening of his offices in the Medical Building on Broad Avenue, Albany. Practice limited to ear, nose and throat diseases.

\* \* \*

Dr. James J. Clark, Atlanta, announces the association of Dr. Robert M. Tankesley in the practice of roentgenology, suite 218 Doctors Building, 478 Peachtree Street, N. E., Atlanta.

\* \* \*

Dr. Roger W. Dickson, Atlanta, announces the removal of his offices to 27 Fourth Street, N. E., Atlanta. Practice limited to pediatrics.

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Dr. William F. Friedewald and Dr. James V. Warren, of Emory University School of Medicine, Atlanta, recently reported on significant research carried on in Atlanta. In Copenhagen, Denmark, Dr. Friedewald read a paper on viruses before the fourth International Congress for Microbiology meeting. At Oxford University, England, Dr. Warren discussed heart conditions at the seventeenth International Congress of Physiology. Both young Emory physicians and department chairmen in the medical school, they were specially invited to address these groups. "It is gratifying that your research and teaching have attracted such international recognition," said Dr. Goodrich C. White, president of Emory, in appointing them official delegates from the University to Copenhagen and Oxford, respectively.

\* \* \*

The Bibb County Medical Society held its regular meeting at Ridley Hall, Macon, July 1. Dr. Roland Brown was in charge of the program. Important resolution was voted upon at the business meeting. Dr. A. M. Phillips, secretary.

\* \* \*

Dr. Sidney U. Hancock, formerly resident surgeon of the Macon Hospital, Macon, has opened offices for the practice of his profession as physician and surgeon in the Roddenbery Building, Cairo. He will be associated with the other local physicians and surgeons on the staff of the Grady County Hospital.

\* \* \*

Dr. Paul Hawley, director of medicine, Veterans Administration, Washington, D. C., will receive the 1947 Gorgas award at the annual convention of the Association of Military Surgeons at Boston, Nov. 13-15, 1947. The award is presented annually in recognition of a notable contribution in the field of military medicine. Dr. Hawley, as a major general, was in charge of medicine for the European theater during World War II.

\* \* \*

Dr. J. Phinzy Hitchcock, Augusta, was recently accepted as a fellow in the American College of Surgeons and also a member of the Southeastern Surgical Congress.

American Medical Association, Bureau of Health Education, Chicago, announces a new time of presentation for the AMA-Mutual Broadcasting System weekly radio dramatization, "Stephen Graham, Family Doctor." This program, just extended to November 17, will now be aired each Sunday afternoon at 2 o'clock, Eastern Standard Time.

\* \* \*

Dr. Harry C. King, formerly of Tennesse, announces the opening of his office at 123 East Solomon Street, Griffin. Practice limited to obstetrics and gynecology.

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Dr. Leoenard R. Massengale, Augusta, former resident physician in pediatrics at the University Hospital, Augusta, announces his association with Dr. Philip Mulherin, 1211 Greene Street, Augusta. Practice limited to pediatrics.

\* \* \*

Dr. William D. Mays, Atlanta, director of the tuberculosis department of the Georgia Department of Public Health Service, was recently principal speaker at a meeting of the Citizens Health Council at the Health Clinic, 815 Hemlock Street, Macon. Dr. Mays spoke on the use and possible expansion of streptomycin in line with the council's campaign to raise funds which will be contributed to the state drive to purchase \$75,000 worth of streptomycin for the use of tuberculous patients at Battey State Hospital, Rome.

\* \* \*

Captain Kenneth R. Nelson, medical officer in charge of the United States Marine Hospital, Savannah, has been transferred to Boston where he will have charge of the Marine Hospital. Commander L. C. Watkins, Portland, Maine, will succeed Captain Nelson at the Marine Hospital, Savannah. The Marine Hospital in Boston is a 500-bed hospital. The one in Savannah has 180 beds.

\* \* \*

Dr. Walter W. Otto, Savannah, assistant city and county health officer, has tendered his resignation to Dr. Clair A. Henderson, health officer, it was announced following the quarterly meeting of the Chatham County Board of Health. Dr. Otto resigned his position with the city following receipt of orders to report for duty with the United States Army at Fort Sam Houston, Texas. He holds a commission as a first lieutenant in the reserve corps and has been placed on active duty as of July 6.

\* \* \*

Dr. Henry R. Perkins, Griffin, has returned to his native Augusta where he will resume the practice of eye, ear, nose and throat diseases at 814 Southern Finance Building, Augusta.

\* \* \*

Dr. Philip H. Nippert, Atlanta, announces the reopening of his office, 310 Doctors Building, 478 Peachtree Street, N. E., Atlanta. Practice limited to dermatology.

\* \* \*

Dr. Joseph H. Patterson, Atlanta, announces the removal of his office to 104 Ponce de Leon Ave., N. E., Atlanta. Practice limited to pediatrics.

\* \* \*

Dr. Robert B. Quattlebaum, formerly of Pavo, announces the opening of his office in the Killingsworth Building, Washington Street, Fort Gaines, for the practice of medicine. Plans are under way to open a clinic in Fort Gaines in the near future.

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Dr. B. L. Shackelford, Atlanta, announces the association of Dr. R. M. Scaley in the practice of surgery, gynecology and obstetrics, Medical Arts Building, 384 Peachtree Street, N. E., Atlanta.

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Dr. L. C. Ship, formerly of Anniston, Ala., announces the opening of offices in the City Hall Building, Pearson, for the practice of medicine.

Dr. A. W. Simpson, Washington, recently read a paper on "Gastric Ulcer" at the annual session of the American Medical Association, Atlantic City.

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The officers and fellows of the Southern Psychiatric Association announce that their annual meeting will be held in Birmingham, Alabama, October 13 and 14, 1947.

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The American Association for the Study of Goiter will hold their annual meeting at the King Edward Hotel, Toronto, Canada, May 6, 7, 8, 1948. The program for the three-day meeting will consist of papers dealing with goiter and other diseases of the thyroid gland, dry clinics and demonstrations. Dr. T. C. Davison, Atlanta, corresponding secretary.

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Dr. Arthur W. Hill, Thomasville, commissioner of health of Thomas and Grady counties, has been granted three months leave of absence by the respective boards of health of these counties. Dr. Hill is to attend a special basic course of study conducted by the Ophthalmological Council, Portland, Maine.

\* \* \*

The Southern Medical Association will hold its annual meeting at Baltimore, Maryland, Monday, Tuesday, Wednesday and Thursday, November 24-27, 1947. All meetings—clinical sessions, sections, scientific and technical exhibits—will be held at the Fifth Regiment Armory. All hotel reservations will be made through the Hotel Committee, Southern Medical Meeting, 1714 O'Sullivan Building, Baltimore 2, Maryland, stating the kind and price of accommodations desired and time of arrival in Baltimore. Mr. C. P. Loran, secretary-manager, Southern Medical Association, Empire Building, Birmingham 3, Alabama.

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The Academy-International of Medicine, Topeka, Kansas, believing that professional motion picture films can be of great value in bringing to practitioners and to medical students the advances in medical knowledge, has had compiled a list of the films now available, indexed by topics, and including the source from which they may be obtained by the borrower. As a service to the profession the Academy is offering to mail, upon request, to any members of the Medical Association of Georgia, a complimentary copy of the ATM Medical and Surgical Film Catalogue. Requests should be addressed to: Academy-International of Medicine, 214 West Sixth Street, Topeka, Kansas.

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Dr. David R. Thomas, Augusta, announces the association of Dr. Julian L. Lokey in the practice of internal medicine and allergy, Southern Finance Building, Augusta.

\* \* \*

The Ware County Medical Society held its meeting at the Country Kitchen, Waycross, July 1. Drs. Kenneth McCullough and W. M. Flanagan entertained the members of the society at a chicken dinner preceding the scientific program. Dr. W. F. Reavis, Dr. L. W. Pierce and Dr. Ed Roe Stamps presented an interesting discussion of catheters and the uses of catheters. Following the discussion there was a forum with Dr. W. P. Stoner, Dr. W. L. Pomeroy, Dr. B. H. Minchew, Dr. A. W. DeLoach and Dr. Floyd Davis participating. Dr. W. B. Bates, Jr., who is now in the United States Army, was admitted to associate membership. Members present were: Drs. B. H. Minchew, Jack Cannon, A. W. DeLoach, D. M. Bradley, H. W. Muecke, T. J. Ferrell, W. L. Pomeroy, T. E. Oden, W. D. Mixson, W. P. Stoner, Floyd Davis, J. M. Jackson, Leo Smith, W. C. Calhoun, Kenneth McCullough and W. M. Flanagan.

\* \* \*

Dr. Floyd R. Sanders, Decatur, is taking a three months' post-graduate course at Columbia University Post-Graduate Medical School, New York. Dr. Sanders will resume his practice in Decatur October 1.

Dr. James R. Whitley, Dalton, announces the re-opening of his offices at 208 North Pentz Street, Dalton. Dr. Whitley closed his offices while he was taking a refresher course in surgery at Ochsner Clinic, New Orleans.

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Dr. William A. Wilkes, Augusta, has been awarded the bronze star medal by the commanding officer of Oliver General Hospital, Augusta, Col. O. H. Stanley. The citation reads: "The bronze star medal is awarded to Capt. William A. Wilkes, Medical Corps, United States Army, for meritorious service in connection with military operations against the enemy during the period, October 1, 1944 to December 31, 1944, in the European theater of operations." Dr. Wilkes has resumed his private practice of medicine at 1546 Schley Street, Augusta.

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Dr. C. A. Witmer, Waycross, announces the association of Dr. Floyd Davis in the practice of surgery at 201 Remshart Street, Waycross.

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Dr. J. J. Word, formerly of Bowdon and Decatur, announces his association with Dr. O. R. Styles, West Theatre Building, Cedartown. Dr. Word will do general practice including obstetrics and general surgery.

\* \* \*

The Georgia Baptist Hospital staff dinner meeting was held in the dining room of the Nurses Home, Atlanta, July 15. Dr. A. M. Dimmock, secretary.

\* \* \*

The Fulton County Medical Society held its regular dinner meeting at the Academy of Medicine, Atlanta, July 3. Scientific program: "Proctosigmoidectomy," Dr. Edgar Boling; "Leprosy, Clinical and Pictorial Discussion," Dr. Herbert S. Alden; "Early Rising After Major Abdominal Surgery," Dr. Irving L. Greenberg.

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Dr. J. Clarence Johnson and Dr. McClaren Johnson, Atlanta, announce the association of Dr. Lester C. Crismon in the practice of internal medicine and gastroenterology, 478 Peachtree Street, N. E., Atlanta.

\* \* \*

Dr. Hal C. Miller and Dr. T. R. Staton, Atlanta, announce the association of Dr. W. Harry Hill, 478 Peachtree Street, N. E., Atlanta. Practice limited to surgery.

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Dr. R. A. Bartholomew, Dr. E. D. Colvin and Dr. W. H. Grimes, Jr., Atlanta, announce the association of Dr. John S. Fish, 1259 Clifton Road, N. E., Atlanta. Obstetrics.

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Dr. Charles Rieser, Atlanta, recently attended the meeting of the American Urological Association, Buffalo, N. Y.

\* \* \*

Dr. Philip I. Krugman, Atlanta, is attending the Post-Graduate School of Medicine at New York University College of Medicine, New York, for four months' study in gynecology. He will open his office at 727 West Peachtree Street, Atlanta, in November.

\* \* \*

The Fulton County Medical Society held its dinner meeting at the Academy of Medicine, Atlanta, August 7. Program: "Use of Radium in the Nasopharynx for Deafness and its Clinical Effects," by Dr. J. L. Jennings; "Use of Quinidine in Heart Disease," by Dr. Bruce Logue, and "Recent Advances in the Diagnosis and Treatment of Syphilis," by Dr. Albert Heyman.

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The medical section of the general staff of the Crawford W. Long Memorial Hospital held its meeting in the Medical Library of the Crawford W. Long Memorial Hospital, Atlanta, August 7.

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The Council on Pharmacy and Chemistry of the American Medical Association provides each year ap-



proximately 25 grants whereby research workers can obtain added funds to investigate some new phase of therapeutics.

\* \* \*

The Council on Medical Education and Hospitals of the American Medical Association maintains a card index on 23,000 medical students, recording their progress through medical schools.

\* \* \*

The Council on Foods and Nutrition of the American Medical Association assists in keeping the practicing physician informed about the important advances in the field of foods and nutrition.

\* \* \*

The Biographical-Directory Department of the American Medical Association maintains a record of nearly all the physicians who served with the Army and Navy during World War II.

\* \* \*

The Bureau of Medical Economic Research of the American Medical Association reports that the American people spend two and one-half times as much for tobacco as they spend for physicians' services.

\* \* \*

The American Medical Association, through its Bureau of Legal Medicine and Legislation, maintains an active interest in the enactment of medical licensure laws to safeguard the public against unqualified practitioners of the healing art.

\* \* \*

The Council on Medical Education and Hospitals of the American Medical Association approved 6,280 hospitals containing 1,468,714 beds and 84,145 bassinets during 1947. Approximately 15,153,452 patients were admitted to these hospitals during 1946.

\* \* \*

Approximately 120 radio stations of the Mutual Broadcasting System have carried the program entitled "Stephen Graham, Family Doctor," which has been produced under the supervision of the Bureau of Health Education of the American Medical Association.

\* \* \*

The Council on Pharmacy and Chemistry of the American Medical Association, which consists of outstanding scientists from all parts of the United States, is concerned with the evaluation, usefulness and safety of drugs.

\* \* \*

Members of the Georgia Chapter of the American College of Surgeons are invited to attend the second annual meeting at Augusta, October 31, 1947. The guest speaker will be Dr. Dallas B. Phemister. Headquarters: Sheraton Bon Air Hotel.

#### AMERICAN COLLEGE OF SURGEONS TO HOLD CLINICAL CONGRESS IN NEW YORK SEPTEMBER 8-12, 1947

The thirty-third annual Clinical Congress of the American College of Surgeons, including the twenty-sixth annual Hospital Standardization Conference, will be held at The Waldorf-Astoria, New York, from September 8 to 12. The five-day program features operative and nonoperative clinics in 38 hospitals in New York and Brooklyn, and scientific sessions in general surgery and the surgical specialties, official meetings, hospital conferences, medical motion pictures, and educational and technical exhibits, at the headquarters hotel. Dr. Howard A. Patterson of New York is chairman of the Committee on Arrangements; Dr. Frank Glenn is secretary. Dr. Malcolm T. MacEachern and Dr. Bowman C. Crowell, Chicago, the associate directors, are in general charge.

The first event on the Clinical Congress program will be the general assembly for surgeons and hospital representatives on Monday morning, September 8, with Dr. Irvin Abell, Louisville, president of the College and chairman of its board of regents, presiding. Mon-

day evening the Presidential Meeting, including inauguration of the following new officers, will be held: President, Dr. Arthur W. Allen, Boston; First Vice President, Dr. Thomas E. Jones, Cleveland; Second Vice President, Dr. Gordon B. New, Rochester, Minnesota. At this meeting Dr. Abell will give the address of the Retiring President, on the subject, "The Spirit of Surgery," and Dr. Allen O. Whipple of New York will deliver the second Martin Memorial Lecture, his subject being "The Qualifications of the Surgeon and the Cancer Problem."

The Convocation, at which between five and six hundred initiates will be received into fellowship, will be held on Friday evening, September 12. The new president, Dr. Allen, will confer the fellowships and honorary fellowships. Dr. Andrew C. Ivy of Chicago will give the Fellowship Address.

Subjects for the symposiums in general surgery on Tuesday, Wednesday, and Thursday evenings will be: The Proper Use of Blood and Blood Plasma; Nutritional Requirements in Surgery; and Hypertension. Meetings on Ophthalmology and on Otorhinolaryngology will be held separately on Tuesday and Thursday evenings, with a joint session for these two groups on Wednesday evening.

Every morning from 9 to 12:30, Tuesday through Friday, a Forum on Fundamental Surgical Problems will be devoted to the presentation of the results of clinical and experimental research on problems related to general surgery and the surgical specialties which are being currently conducted in many medical schools, clinics, and hospitals. Dr. Owen H. Wangensteen of Minneapolis is chairman of the Committee on Forums.

Panel discussions in Ophthalmology will be held Tuesday, Wednesday, and Thursday mornings from 9 to 10:30, and in Otorhinolaryngology on the same mornings from 10:45 to 12:15. Afternoon panel discussions in general surgery will include the following topics: Pulmonary Suppuration, Pancreatitis, Surgery of the Spleen, Jaundice, Gastric Surgery, Use of Antibiotic Agents and Chemotherapy in Surgery, and Surgery of the Hand. On Tuesday afternoon there will be a Symposium on Fractures and Other Traumas, on the general theme of "Appraisal of Present Methods of Treatment," and a Symposium on Organization for the Diagnosis and Treatment of Cancer, including Cancer Clinics and Cancer Detection Centers. On Wednesday afternoon there will be a Symposium on Cancer. On Thursday afternoon a Symposium on Graduate Training in Surgery will be held. Friday afternoon will be devoted to concurrent panel discussions in the following specialty fields: Neurological Surgery, Obstetrics and Gynecology, Orthopedic Surgery, Plastic Surgery, Thoracic Surgery, and Urology.

Among the subjects to be discussed at the twelve sessions comprising the Hospital Standardization Conference from Monday through Thursday will be the following: Current Problems in Medical Service in Hospitals; Improving Food Service in Hospitals; Improving Nursing Service in Hospitals; Relationships between Trustees, Medical Staff Officers, and Administrators; Personnel Relations; Public Relations; Improving Medical Records in Hospitals; Trends in Hospital Administration; Special Problems of the Small Hospital in Meeting the Standards of the College; Selected Problems; the Point Rating System; and Graduate Training in Surgery.

#### SECOND ANNUAL POSTGRADUATE COURSE IN DISEASES OF THE CHEST

The American College of Chest Physicians is sponsoring a second annual postgraduate course in diseases of the chest to be held during the week of September 15-20, 1947, at the Municipal Tuberculosis Sanitarium, Chicago, Illinois.

The emphasis in this course will be placed on the



newer developments in all aspects of diagnosis and treatment of diseases of the chest.

The course will be limited to 30 physicians. Tuition fee is \$50.00.

Further information may be secured at the office of the American College of Chest Physicians, 500 North Dearborn Street, Chicago 10, Illinois.

#### FACULTY CHANGES

Appointment of 13 new teachers to the faculty of Emory University, the promotion of three others and changes in the status of four present faculty members were announced recently by Emory President Goodrich C. White.

The largest number of new appointments, Dr. White's announcement revealed, was to the faculty of Emory's School of Medicine. The following new members were named:

Dr. Marion Hines, as professor of experimental anatomy; Dr. Josef Szepeswol, as assistant professor of anatomy; Dr. Guy Darrell Ayer, Jr., as assistant professor of pathology; Dr. Lee N. Foster, as associate in pathology; Dr. John L. Patterson, Jr., as instructor in physiology; Mrs. Hortense Elton Garver, as instructor in medicine (clinical pathology); Dr. Joseph H. Patterson and Dr. John T. Leslie, as assistants in pediatrics, and Dr. Charles E. Holloway, as assistant in surgery.

Four changes in the status of medical faculty members were also announced:

Dr. Robert Grant and Dr. David F. James, who were named to positions in the department of medicine earlier in the year, have been appointed instructors in the department of physiology.

Dr. Irving L. Greenberg, whose temporary appointment in anatomy expired June 15, becomes assistant in surgery; and Dr. J. R. McCain will revert from full-time to part-time instructor in obstetrics and gynecology.

Dr. White also announced the promotion of three members of the medical faculty. Dr. Marion C. Pruitt has been promoted from associate in surgery to assistant professor of clinical surgery (proctology). Drs. Buford L. O'Neal and James T. King, former assistants in clinical otology and rhinolaryngology, now become instructors in that subject.

#### MAJORITY OF SOUTHEASTERN FARMS EQUIPPED WITH RADIO

While 92 per cent of the farm dwellings in the Southeast had no telephones two years ago, 85 per cent were not equipped with running water, and 67 per cent were minus electricity, 58 per cent of them had radios, according to the 1945 Census of Agriculture, now available in buckram binding for public sale.

Of a total of 1,374,267 farm dwelling operators answering "yes" or "no" to the question of whether they had radios, 785,897 said they had them, and 588,370 reported "no." At the same time, 193,472 had and 1,178,265 were without running water; 447,119 had and 928,308 were without electricity; and 98,156 had, and 1,270,486 were without telephones.

In Florida, farm dwellings had the highest percentage, proportionately, in running water and electricity facilities of any of the States, 37 and 40 per cent, respectively. In radios and telephones, Tennessee led with 69 and 15 per cent. In Mississippi, only 8 per cent had running water, 11 per cent in Alabama, 13 per cent each in Tennessee and South Carolina, 15 per cent in North Carolina, and 16 per cent in Georgia. Twenty per cent of the Mississippi farm homes had electricity, Alabama and Tennessee, 30 per cent each, Georgia 35 per cent, South Carolina, 37 per cent, and North Carolina, 38 per cent.

North Carolina ran Tennessee a close race on radios, 63 per cent of its farm dwellings having that facility, and Florida was third with 61 per cent. Fifty-four per cent of the Georgia and Alabama farmers had radios,

48 per cent had them in South Carolina, and 47 per cent in Mississippi.

All seven States were low in the matter of farm dwelling telephones. Next to Tennessee was Florida with 11 per cent, and, in order, came Georgia with 6 per cent, Alabama and North Carolina, 5 per cent each, South Carolina, 4 per cent, and Mississippi, 3 per cent.

All of which means better education, better health and better living.

#### HEALTHIGRAMS

We have arrived at the point of diminishing returns for efforts expended in the tuberculosis program—that is, we must work harder to be sure of continued reduction in the death rate.—Comm. on Tbc., N. H. Med. Soc., N. E. Jour. Med., Sept. 26, 1946.

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Probably no greater mental trauma is ever inflicted by a physician than when he first tells a patient that he or she has tuberculosis. The patient probably knows absolutely nothing about tuberculosis except that it is a dread disease. Material and social problems combined with the psychological problems of separation from family, complete change of living routine, sudden cessation of all activity, ignorance of the disease and what it will mean to him and an unknown future is apt to create in the patient a mental turmoil which is a known detriment to his eventual recovery and return to a useful life.—C. J. Stringer, M. D., Hospitals, August, 1946.

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When compared with some other diseases, the purchase price of control of tuberculosis may be considered a bargain. This is so because we know its cause. We know how it is spread. We know how to prevent it, and we know how to treat it. Moreover, it costs pennies to control it, and dollars to tolerate it.—Robert E. Plunkett, M. D., N. Y. Dept. Health, Mar. 1946.

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Student nurses often acquire tuberculosis infection as a result of exposure in the course of their training in hospitals. For them tuberculosis is an occupational disease. Physicians, nurses, orderlies, clerks, technicians and all others who have contact with patients are all subject to the hazard, although to a varying degree.—Leopold Brahdly, M. D., Jour. Ind. Hygiene and Toxicology, Oct., 1945.

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During the past 50 years tuberculosis has been declining more rapidly in childhood and adolescence than at any other age. In fact, tuberculosis has become primarily a disease of middle-aged and old people. In Massachusetts the reaction rate to the tuberculin test in school children dropped 50 per cent between 1925 and 1940, and the amount of pulmonary tuberculosis found by mass examination fell proportionately. In Tennessee, with a high tuberculosis death rate, the state department of health reports five cases per 1,000 among high school students, compared with two per 1,000 found in Massachusetts.—Alton S. Pope, M. D., NTA Bull., Nov., 1946.

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Tuberculosis is a public health problem which affects every single individual in the state. Every case of tuberculosis costs somebody in the community \$10,000. Since 96 per cent of the patients cannot afford to pay their hospital expenses, that "somebody" is the taxpayer. This cost will go on and on until all the active cases of tuberculosis are located, hospitalized and prevented from spreading infection to others.—Health and Safety Medium, Sept., 1946.

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Rehabilitation in tuberculosis should begin no later than the day the patient enters the sanatorium, because from the beginning he must know that there is still a future for him. This knowledge acquired early in illness

makes a great difference in his morale and his manner of adjustment to a changed way of life. Herman E. Hilleboe, M.D. and Norvin C. Kiefer, M.D., Pub. Health Rep., Mar. 1, 1946.

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Pleural effusion occurring in young persons in whom no other readily demonstrable cause exists can be considered tuberculous until clearly proved otherwise. D. J. Feldman, M.D. and H. P. Lewis, M.D., Med. Clin. N. Am., 1946.

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Testing with histoplasmin and other fungus antigens has led to these conclusions: mild, subclinical infection with *histoplasma capsulatum*, or a related organism, is prevalent in certain parts of the United States—notably the East-Central, where 70 per cent of the student nurses tested with histoplasmin were positive; and such infection is probably responsible for the pulmonary calcification observed in tuberculin-negative reactors. TB Control Div., U. S. P. H. S. Annual Rep., 1946.

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The most effective method of controlling tuberculosis, in the light of present knowledge, is isolation of infected persons, preferably in a tuberculosis institution. The extent to which this is being accomplished cannot be measured adequately by mortality statistics. It is known that persons dying of tuberculosis in institutions may not have been hospitalized sufficiently long to assure adequate protection of household and other contacts. Jacob Yerushalmy, M.D., Hospitals, Aug., 1946.

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Good medical care is rarely cheap, and cheap medical care is rarely economical. N. Y. Acad. Med. Rep. on Med. in Changing Order, Commonwealth Fund, 1947.

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There can be no relaxation of effort until tuberculosis has been completely and permanently eradicated—a goal that at present appears possible only through continuous application of discoveries and advances already attained. Consolidation of the gains made and progress toward eventual eradication depend on a ceaseless campaign of case finding, rehabilitation and, most important of all, health education. N. E. Jour. Med., Dec. 5, 1946.

#### MANY PATIENTS HAVE EMOTIONAL ILLNESS COMPLICATING PHYSICAL DISEASE

At least one half of all patients have their symptoms as a result of emotional difficulties in addition to and as a part of the physical disease, according to Raymond W. Waggoner, M.D., of Ann Arbor, Mich.

"Every patient will respond more promptly to treatment of any disease if the physician understands and adequately handles the emotional as well as the physical aspect of the illness . . . therefore it is essential that every physician, whether he is in general practice or in a specialty, obtain some understanding of psychiatric principles and utilizes these principles in the treatment of all of his patients," states the author.

Writing in the June 28 issue of *The Journal of the American Medical Association*, Dr. Waggoner, Professor of Psychiatry at the University of Michigan, points out that only about two per cent of the registered physicians in this country are trained in psychiatric procedures; therefore the task of treating emotional illness falls upon the general practitioner.

"Recognition of the importance of emotional factors in illness, a willingness to spend more time with such patients, an understanding of some of the motivating factors in such conditions and the ability to help in the solution of such problems is an essential characteristic of every good physician," states the author.

The physician cautions that since patients tend to exaggerate symptoms of physical illness, great harm can be done by the prescription of unneeded rest.

#### PREVIEW NEW MARCH OF TIME MOVIE— 'YOUR DOCTORS—1947'

The newest March of Time movie, "Your Doctors—1947," is being previewed in various sections of the country this week.

The movie short reviews what American doctors are doing in 1947 to make life longer and better and reveals many facts about the latest advances in medical science.

This realistic film takes audiences inside medical schools, laboratories, operating rooms and places like the famed New York Academy of Medicine and the Lahey Clinic in Boston; it shows them the techniques that have been developed for a brain operation; the use of the artificial kidney; an RH transfusion performed on a baby and the use of atomic isotopes in treating cancer of the thyroid.

Some of the scenes show psychosomatic medicine as practiced at New York Mt. Sinai Hospital and the New York Psychoanalytic Institute.

#### SET DATES FOR 1948 A.M.A. MEETING

The 1948 session of the American Medical Association will be held in Chicago, June 21-25. The House of Delegates, meeting in Atlantic City recently, voted to hold the 1949 session in Atlantic City and the 1950 meeting in San Francisco.

#### ANNUAL LOSS IN MILK PRODUCTS, MEAT FROM BRUCELLOSIS STAGGERING

The annual food loss in milk, butter, beef, veal and pork from brucellosis reaches a staggering total in calories of the kind most needed by an underfed world, according to an editorial in the July 5 issue of *The Journal of the American Medical Association*.

Brucellosis, commonly known as undulant fever or Malta fever, is one of the most prevalent today and a source of potential danger to the national health. Goats, cows and hogs harbor the infection and man contracts it by drinking raw milk or handling infectious material.

The editorial estimates that "the total number of cases reported in the United States has averaged about 4,000 yearly for the past several years. Only the relatively severe acute illnesses are diagnosed and reported. Chronic infections outnumber the acute illness by a ratio of at least 10 to one but these chronic infections are rarely diagnosed. If 4,000 cases are reported yearly it is probable that from 40,000 to 100,000 infections occur yearly."

Citing investigations made for the state of Michigan, the editorial points out that the average infected cow was found to produce 2,065 pounds less milk per lactation period than the noninfected cow. Estimating that 10 per cent of 1,080,000 cows in the state of Michigan were infected, the 108,000 infected cows resulted in a total milk loss of 222,904,000 pounds of market milk yearly—enough to supply about 557,000 persons for one year.

The editorial concludes that "development of still better methods in diagnosis, treatment and prevention, in animals and man, depends upon an increasing 'brucellosis-mindedness' and continued investigation. The disease continues to be a major public health problem. Pasteurization of all dairy products must remain the greatest bulwark against human infection until methods of control can be perfected."

#### "WAR OR NO WAR, DEPRESSION OR NO DEPRESSION,"—

Depression or no depression, in good times and in bad, Mead Johnson & Company are keeping the faith with the medical profession. Mead products are not advertised to the public. If you approve this policy, Please specify MEAD'S.



## CANCER RESEARCH

"Since World War II, cancer research has been greatly accelerated in the United States," Dr. R. R. Spencer, chief of the National Cancer Institute, Bethesda, Maryland, says in an editorial appearing in the current issue of *Radiology*, published by the Radiological Society of North America.

"The American Cancer Society, upon the recommendations of the Committee on Growth of the National Research Council, has allocated over \$1,500,000 to cancer investigation throughout the country, and the National Cancer Institute, upon the recommendations of the National Advisory Council, has distributed \$500,000 since July 1, 1946," the editorial says, adding:

"Still larger sums from both private and tax-supported sources will be available after July, 1947. The emphasis today in cancer research is shifting from studies on the carcinogenic (cancer producing) process toward chemotherapy (treatment with chemicals).

"The recent advances made in our knowledge of the sex hormones in relation to the growth of certain types of cancer, the effect of nutrition (restricted caloric diet) on experimental animal cancers, both spontaneous and induced, and the discovery that certain chemicals seem to have selective effects on cancer cells have encouraged workers to concentrate upon the chemotherapeutic approach. No one can say, however, which approach is most promising, and the final solution may come from a totally unexpected source."

Dr. Spencer's editorial, entitled "The Present Status of Cancer Research," says that "up to the present time, search for a single cause of cancer has been fruitless." Dr. Spencer stated that cancer can now be induced at will in experimental animals by more than 200 different chemicals.

"Progress in the therapy of cancer has been relatively slow," the editorial says. "Radium, x-rays, and surgery remain our most effective weapons provided diagnosis is made early and the patient falls in expert hands."

NUTRITION EXPERT PROVIDES HINTS  
ON ESSENTIALS OF SUMMER DIET

A Philadelphia nutrition expert presents some hints on the essentials of a summer diet in the current issue of *Hygeia*, health magazine of the American Medical Association.

Michael G. Wohl, M.D., Chairman, Advisory Committee, states that "the first requirement of a balanced diet is an adequate energy intake for work, play and the body functions. The amount varies with age, sex and physical activity. For the man of average size engaged in desk work or other nonstrenuous occupation, the daily requirement is calculated, scientifically, as 2500 calories or heat units. Growing children and laborers require two or three times this caloric intake."

Pointing out that in summer, since there is no heat loss from the body for which to compensate, the amount of food eaten may be reduced, the author cautions that the reduction should not take place at the expense of the proteins.

"Proteins are not only the 'body-building' foods," Dr. Wohl writes. "They are necessary for growth and for replacing tissues worn out through activity, but also they have a vital function in building resistance to infection."

Summer makes no difference in the requirements for the other essentials of a balanced diet, the vitamins and the minerals, states the author. "We must have iron in the blood to get oxygen from the air. We must have calcium and phosphorous to build strong bones, to build tissues, to prevent rickets. Calcium is also essential to maintain nervous stability. We must have iodine to prevent goiter."

PROVISIONS FOR APPOINTMENT OF REGULAR  
ARMY MEDICAL AND DENTAL CORPS OFFICERS

Provisions have been made for the appointment of persons qualified for commissioned grades in the Medical Corps and Dental Corps of the Regular Army from three sources in addition to the current Regular Army integration program. Appointments to either corps will be made in the grade of first lieutenant with a minimum and maximum age on date of appointment of 21 to 32 years. The sources from which these appointments will be made are:

From persons who have completed a one-year internship in an Army hospital, are graduates of an approved medical or dental school, and are recommended for appointment in the Regular Army by the intern board of the hospital in which the candidate served his internship.

From medical and dental officers of the Officers Reserve Corps, National Guard of the United States, and Army of the United States who have demonstrated their fitness to hold commissioned grade in the Medical Corps or Dental Corps of the Regular Army, after having performed at least one year of continuous extended active duty after June 30, 1947, and are recommended by the commanding officers under whom they performed such active duty, are graduates of an approved medical or dental school, and, if candidates for the Medical Corps, have successfully completed one year's internship in an approved hospital.

Direct appointment of any qualified person, military or civilian, who is a graduate of an approved medical or dental school as a result of a competitive professional examination prepared and administered by The Surgeon General. Candidates for the Medical Corps must successfully have completed one year's internship in an approved hospital.

## PSYCHIATRY

A new six-page leaflet entitled *Psychiatry*, by Florence L. Rome, has just been issued by Occupational Index, Inc., New York University, New York 3, N. Y. A thorough survey of the field, this pamphlet is now available for distribution.

Here is information on the growth of psychiatry, future prospects, description of the work, qualifications and preparation necessary, methods of entrance and advancement, salary ranges, number and distribution of doctors already in the field, advantages and disadvantages. Sources of further information are listed and selected references for additional reading included.

## TRY PABLUM ON YOUR VACATION

Vacations are too often a vacation from protective foods. For optimum benefits a vacation should furnish optimum nutrition as well as relaxation, yet actually this is the time when many persons go on a spree of refined carbohydrates. Pablum is a food that "goes good" on camping trips and at the same time supplies an abundance of calcium, phosphorus, iron, and vitamins B and C. It can be prepared in a minute, *without cooking*, as a breakfast dish or used as a flour to increase the mineral and vitamin values of staple recipes. Packed dry, Pablum is light to carry, requires no refrigeration. Easy-to-fix Pablum recipes and samples are available to physicians who request them from Mead Johnson & Company, Evansville, Indiana.

*The JOURNAL would like to record the scientific work of Georgia doctors. It earnestly requests, therefore, that each physician in the State who publishes a contribution in some other medical periodical submit an abstract of the article for these columns.*



## VACATIONS

In order to be of greatest benefit to any person, child, adolescent or adult, a vacation should be enjoyed away from the so-called daily grind—the everyday routine of ordinary living.

Everyone needs a change, according to a health talk issued by the Educational Committee of the Illinois State Medical Society. This doesn't mean, necessarily, an expensive change, but in the busy adult, burdened with the details of responsibility, a new perspective is essential.

"The work-a-day" life can bring about great fatigue of mind and body. The interruptions caused by telephone bells, visitors and heavy mail, necessary to a position of activity, can become a disturbance to a tired mind in urban life.

The early rising and the wearying routine of a farmer can, because of its sameness, fatigue him into a state of irritation where his innate love of the land temporarily takes flight.

Vacations are necessary to bring back zest. For some persons, an automobile trip brings relaxation. In others, a trip to another city, seeing new things, is just the medium necessary to put the mind and body at rest.

Again, there are still others who derive great enjoyment from exercise, such as golf, tennis, swimming and all other activities of outdoor life.

Whatever your pleasures are, indulge them when it comes to a vacation. Bear in mind, however, the need for good sanitation. Living quarters should be clean; so should the places where food is prepared. A vacation will be wasted if you become sick from impure drinking water, milk that has not been pasteurized and contamination from improper sewage disposal.

Then it is well to remember the hazards frequently encountered on a vacation. There is the danger of taking too much sun in outdoor activities, of playing too much golf, of camping near unsanitary water and of eating improperly prepared food. Trying to crowd a lot into a short time is responsible for inadequate sleep.

Taking chances is wrong when driving a car. Automobile accidents with their accompanying tragedies spoil many vacations.

Everyone needs a vacation, but, like everything else, moderation is required.

Take your vacation, but let it give you health and happiness.

## KEEPING CHINS UP

The Veterans Administration neuropsychiatric hospital at Lexington, Ky., set up an outdoor public address system to broadcast baseball games played by the Cincinnati Reds, for the benefit of veteran-patients able to go about the hospital grounds.

\* \* \*

A patient in the Veterans Administration hospital at Memphis, Tenn., paralyzed from the waist down, coached employee basketball teams during the past season from his wheelchair.

He had more success with the men's team than with the women's. The men won 12 out of 15 games, while the women won 4 and tied 2 out of their 12 contests.

\* \* \*

The Danville, Ill., YMCA is cooperating with the Veterans Administration hospital there by offering its gymnasium facilities to veteran-patients able to take part in athletics.

\* \* \*

Patients of the Veterans Administration tuberculosis hospital at Sunmount, N. Y., are publishing an athletic newspaper in addition to the regular hospital paper. The TB patients, unable to participate in active athletics, find the sports paper an adequate substitute for actual participation.

Veterans Administration hospitals in the area of Dallas, Texas, obtained more than 800 bicycles from Army surplus stocks for patients who have physicians' permission to ride them.

\* \* \*

Tommy Dukehart, sports editor of the Baltimore, Md., News Post, and Jesse Linthicum of the Baltimore SUN, conducted a sports quiz for patients in the Veterans Administration hospital at Fort Howard, Md. The quiz was broadcast over the hospital's ear-phone radio hookup for bed-ridden patients who could not attend.

\* \* \*

The Baseball Writers' Association is cooperating with Veterans Administration by supplying baseball schedules, players' personal histories, rosters, press releases and other data to veteran-patients in VA hospitals in Maryland, Virginia, the District of Columbia, and North Carolina—the area encompassed by VA branch office No. 4.

## NEW BOOKS

**CONCISE ANATOMY:** by Linden F. Edwards, Ph.D., Professor of Anatomy, Ohio State University. This is a new text designed to meet the needs of students in a wide variety of ancillary fields such as Physical Therapy, Occupational Therapy, Medical Technology, Nursing, Dental Hygiene, Physical Education, Schools of Embalming and many others. The aim is to present a clear, well illustrated study of the basic principles of human anatomy including its descriptive, microscopic and developmental aspects—true essentials for a working knowledge of the human body.

The principles of general anatomy are first studied, then the bones, muscles, articulations, blood vessels, lymphatics and nerves of each region are considered in the order named. The material is presented in such a manner that the instructor may conveniently adopt almost any sequence of topics. The style and presentation are planned to facilitate anatomic reasoning and to acquire a better understanding and keener appreciation of the facts of gross anatomy. 472 illustrations, some in color. 548 pages. Price \$5.50. The Blakiston Company, 1012 Walnut Street, Philadelphia 5, Pennsylvania.

\* \* \*

**GYNECOLOGY** with a section on FEMALE UROLOGY: By Lawrence R. Wharton, Ph.B., M.D., Assistant Professor of Gynecology, The Johns Hopkins Medical School; Assistant Attending Gynecologist, The Johns Hopkins Hospital; Consultant in Gynecology, The Union Memorial Hospital, Hospital for the Women of Maryland, Sinai Hospital and Church Home and Infirmary. Second Edition. 1027 pages, with 479 illustrations. Philadelphia and London: W. B. Saunders Company, 1947. Price \$10.00.

\* \* \*

**DISEASES OF THE CHEST: WITH EMPHASIS ON X-RAY DIAGNOSIS:** By Eli H. Rubin, M.D., F.A.C.P., F.C.C.P., Attending Physician, Division of Pulmonary Diseases, Montefiore Hospital and Country Sanatorium, New York; Visiting Physician in Tuberculosis and Physician-in-charge, Chest Clinic, Morrisania City Hospital, New York. 685 pages, with 355 illustrations (24 plates in color). Philadelphia and London: W. B. Saunders Company, 1947. Price \$12.00.

\* \* \*

Needed a new book on THE ART OF LIVING, particularly for use by physicians. Victims of all diseases to which human flesh is heir, they themselves often lose the simple art of living.

## OBITUARY

DR. JAMES ANDREW FOUNTAIN, aged 54, widely known Macon physician, died at a Macon hospital following a heart attack June 26, 1947. A native of Reynolds, he was the son of the late T. J. and Mrs. Lucy Daniel Fountain. Dr. Fountain graduated from Vanderbilt University School of Medicine, Nashville, Tenn., in 1917, and was a veteran of World War I, when he served as a Navy medical officer. He had practiced medicine in Macon for 26 years. He was a member of the Bibb County Medical Society; Sixth District Medical Society, of which he was president; Medical Association of Georgia and the American Medical Association. He was a member of the First Baptist Church, Macon. He is survived by his wife, the former Miss Ruth Boylston; a daughter, Miss Lucine Fountain; a son, James Fountain, and four brothers and three sisters. Funeral services were held at Memorial Chapel with Dr. William E. Denham, Jr., officiating. Burial was in Riverside Cemetery, Macon.

\* \* \*

DR. MARCUS LAFAYETTE HICKSON, aged 55, prominent Fort Valley physician, died suddenly at his home following a heart attack, June 17, 1947. He was born in Houston County, the son of the late Seabie Washington Hickson and Susie Battle Hickson. Dr. Hickson graduated from Emory University School of Medicine, Atlanta, in 1915, and returned to Fort Valley where he began the practice of medicine. He was a veteran of World War I, serving with the Army Medical Corps and upon his discharge held the rank of lieutenant. He was a Mason and a member of Knights Templar; a member of the American Legion, and of the First Methodist Church. He is survived by his wife, the former Louise Fagan; two daughters, Mrs. Robert McIver, Washington, D. C., and Mrs. Henry Summer, Auburn, Ala.; a son, Marcus L. Hickson, Jr., Fort Valley; a brother, Seabie Hickson, Perry; and two grandchildren. Funeral services were held at the Fort Valley Baptist Church with the Rev. Raymond L. Harvey, the Rev. W. L. Roebuck, and Dr. Aquila Chamlee officiating. Burial was in Oaklawn Cemetery, Fort Valley.

\* \* \*

DR. FARISH CLAY HOLDEN, aged 47, prominent Atlanta physician and surgeon and medical consultant for the Veterans Administration, died July 15, 1947. Dr. Holden was born in Ellijay, son of the late Dr. and Mrs. A. S. Holden. He went to Emory University for his pre-med training and graduated from the University of Georgia School of Medicine, Augusta, in 1928. He was a member of the Fulton County Medical Society, the Medical Association of Georgia, the Southern Medical Association, and the American Medical Association. Active in civic and social work also, Dr. Holden was a member of the American Legion, the Masons and the First Baptist Church. He is survived by his wife, the former Miss Daisy Myrick, Fairfax, S. C.; a sister, Mrs. Carl Lewis, Cordele; and a brother, Lowry S. Holden, Atlanta. Funeral services were held at Spring Hill, with Dr. J. G. Davis, Dr. George McFarty and Chaplain J. C. Richardson officiating. Burial was in West View Abbey, Atlanta.

\* \* \*

DR. CHARLES WESLEY ROBERTS, aged 64, nationally-known Atlanta surgeon and member of the Executive Committee of the Board of Trustees of the American Medical Association, died of a heart attack, July 28, 1947. Born in Coffee County, shortly after his graduation from the University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore, Maryland, in 1906, Dr. Roberts, an honor graduate, returned to his home at Douglas, where he operated a hospital for almost eight years. He came to Atlanta in 1917 and practiced as a general surgeon until the time of his death. He was a member of the Fulton County Medical Society, the Medical Association of Georgia, and the American Medical Association. As a member of the three-man executive committee of the American Medical Association,

Dr. Roberts was one of the most nationally prominent men in the field of medicine. He was a member of the Board of Trustees since 1941 and previously was a member of the House of Delegates of the American Medical Association. He was an honorary fellow of the American College of Surgeons, an associate in surgery at Emory University School of Medicine and a fellow of the American Association of Industrial Physicians and Surgeons. He was a frequent contributor to national medical and surgical journals and recently had written a paper, "Four-Dimensional Medicine," which was published in the North Carolina Medical Journal. In 1946, Governor Arnall appointed Dr. Roberts a member of the State Hospital Advisory Committee. At the time of his death he was a member of the surgical staffs of Crawford W. Long, Georgia Baptist and Grady hospitals. He was a member of the Rush Medical Club of the University of Maryland and a charter member of the college chapter of Nu Sigma Nu medical fraternity, also a member of the Kiwanis Club, the Knights of Pythias and the Yaraab Shrine. Survivors include his wife, the former Miss Frances Blanche Purcell; a son, Dr. C. Purcell Roberts, Atlanta; three sisters, Mrs. Moses Lott and Mrs. Lester Sole, both of Nicholls, and Mrs. Clinton Giles, Clinton, S. C.; three brothers, J. A. and Emmett E. Roberts, both of Douglas, and A. S. Roberts, Washington, D. C. Funeral services were held at Spring Hill, with Dr. Fred R. Chenault officiating. Burial was in Douglas.

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DR. HENRY CLIFF SAULS, aged 60, widely known Atlanta physician and civic leader, died July 15, 1947. A native of Marietta, Dr. Sauls was the son of the late Mr. and Mrs. Henry Sauls. He graduated from Emory University School of Medicine, Atlanta, in 1913. During World War I, he served as captain with the Emory Unit, Base Hospital No. 43. He had served as president of Fulton County Medical Society, president of the board of trustees of Piedmont Hospital, associate professor at Emory University School of Medicine, president of Emory Alumni Association, chairman of the board of directors of Medical Arts Building, and was a diplomate of the American Board of Internal Medicine. Dr. Sauls was a member of the Medical Association of Georgia, American Medical Association, American College of Physicians, American Heart Association, and Southern Medical Association. He also was a member of the First Presbyterian Church, Piedmont Driving Club, Homosassa Fishing Club and the Atlanta Lions Club. Survivors are his wife, the former Miss Elizabeth Moseley; daughters, Caroline and Laura Sauls; sister, Mrs. Olive Sauls Allgood, and brother, T. O. Sauls, both of Marietta. Private funeral services were held at the graveside, with Dr. William V. Gardner officiating. Burial was in West View Cemetery, Atlanta.

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DR. GUSTAVUS T. LYON, aged 82, retired physician of Roswell and Atlanta, died July 1, 1947. He was born at Hiawasse, the son of the late Mr. and Mrs. Henry A. Lyon. Dr. Lyon graduated from the Georgia College of Eclectic Medicine and Surgery, Atlanta, in 1898, and began the practice of medicine at Roswell. He later moved his offices to Atlanta, where he practiced until his retirement several years ago. He was well known in pharmaceutical circles, having been associated with his sons in the retail drug business in Roswell and Atlanta. He was a trustee of the Roswell Methodist Church, a member of the Fulton County Medical Society, the Roswell Lodge 165, F. & A. M., and a former member of the State Board of Medical Examiners. He is survived by his wife, the former Miss Ada Paden; two daughters, Mrs. C. C. Foster, Roswell, and Mrs. R. A. Conaway, Atlanta; two sons, Archie T. Lyon and Harry Lyon, Atlanta, and several grandchildren. Funeral services were held at the Roswell Methodist Church, with the Rev. C. L. Middlebrooks and the Rev. H. A. McNeil officiating. Burial was in the Methodist Cemetery, Roswell.



# THE JOURNAL OF THE MEDICAL ASSOCIATION OF GEORGIA

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## THE LATER YEARS

EDWARD L. BORTZ, M.D.  
*Philadelphia, Pa.*

### *Introduction*

The medical profession of Georgia has developed a generous number of outstanding leaders. It was through one of your contemporaries, one of our nation's great medical statesmen, Dr. James E. Paullin, that the distinguished privilege of presenting the Calhoun Lecture has been extended to me. In a sense coming to Georgia from Pennsylvania is a re-enactment of the migration by which this State gained and Pennsylvania lost that branch of the Calhoun family of which Abner Wellborn Calhoun was one of its most talented descendants.

Dr. Calhoun, born on April 16, 1845, just 102 years ago, early distinguished himself in the field of medicine and, as he grew in knowledge and wisdom, not only became an authority in his chosen field of ophthalmology but was actively interested in organized medicine, public education, and affairs of the state and nation. Were he with us today it is not unlikely that he would have taken a deep interest in the medical and cultural problems of the later years of human existence.

### *The Changing Population*

A significant change is taking place in the age groups of the nation's population at the present time. Effective measures for the control of communicable diseases, the prevention of infections which formerly accounted for high mortality rates in the ma-

ternal and infant groups, the extension of our knowledge of nutrition and metabolic disturbances, and the early diagnosis and frequent cure of cancer all have produced a spectacular fall in the mortality rates of those disorders which before the turn of the century accounted for such a large percentage of deaths. The application of modern methods of disease control and prevention, public health measures, and the absence of large epidemics has permitted a greater number of children and younger adults to attain maturity and become candidates for those medical disorders that frequently occur in the later years of life. The shift among the age groups of the population thus brought about may produce drastic changes in our nation's social pattern.

By 1980 one out of every six in our country's population will be retired instead of approximately one out of 16 as exists at the present time. The medical, social, and cultural influences in such a shift in the age groups of modern society are of first importance to members of the medical profession, and indeed to society at large.

### *Significant Statistics*

Statistics on life expectancy are illuminating. In the large population groups such as are found in China, Japan, India, and certain portions of Africa where modern public health methods have not been applied, the infant and childbirth mortality rates reflect this situation. In these lands likewise, nutritional deficiencies and the ravages of infections destroy many lives, and a relatively minor proportion of the population in these communities may look forward to a long life span.



Since the turn of the century the annual death rate in the United States has been sharply reduced. Whereas the overall mortality rate was approximately 17 per thousand in 1900, by 1936 it had fallen to 11 per thousand, which is a drop of 35 per cent. This has been brought about largely by the increased efficiency in the treatment of the diseases of childbirth, infancy, and the early years of life. Even after the age of 45 individuals still have a 15 per cent better chance than existed a generation ago. In 1944 the average length of life of the American people exceeded 65 years according to the statistics compiled by the Metropolitan Life Insurance Company. By 1946 this had increased by still half a year. Now an individual of 20 years has approximately as many years of life still remaining as had the newborn child of 1900. Even more remarkable is the fact that, whereas only three-quarters of babies born in 1900 could expect to live 25 years, under the present improved living conditions the same number may expect to reach 57 years of age. Curiously, periods of prosperity carry a higher death rate than do periods of depression.

In the leading nations of the world where communities have instituted modern health measures for the protection of their people, communicable diseases are brought under control, and energetic measures in the field of nutrition and early diagnosis of circulatory disorders, cancer, and the degenerative processes, offer individuals the protection which modern science has developed. In these communities more individuals live into the later years, and a shift in the age groups of the population takes on an importance which Dr. Frank G. Dickinson, Director of Medical Economic Research of the American Medical Association, describes as "the most revolutionary cultural and social change since the fall of the Roman empire."

Politically, when individuals over 60 years of age hold the balance of power at the voting polls, it is to be expected that pension taxes and other measures in the interest of supporting the elderly population will become the major political issues.

Some time ago Mark Sullivan stated that by 1965 some 40,000,000 people in our nation will have to support 116,000,000.

Certain other data are important. For discussion purposes one may divide the population into three groups—the young, the old, and those of working age. The present population of the nation is around 140,000,000. Twenty-five years from now it will be approximately 160,000,000. While this is not a spectacular increase in the total population, it is expected that the number of elderly folks will reach approximately 20,000,000. On the other hand, with a decline in the birth rate, if such continues, in 25 years from now, those under 20 will be somewhat over 60,000,000. This would leave, if one deducts those over 65 and those under 20, approximately 80,000,000 who will have to support the entire population. But if half of this solid group is made up of housewives and others who aren't wageearners, then probably 40,000,000 workers will support a total of 160,000,000. The social and cultural changes inherent in such a transformation of the population age groups will be reflected in broad developments for the security of those individuals who are reaching the upper age brackets.

#### *Age and Accomplishment*

Examples are numerous of outstanding accomplishments by individuals who have attained the summit of the years. Hippocrates is said to have reached the age of 104. Stradivarius fashioned his finest instruments after he was 90; Titian painted one of his greatest masterpieces at the age of 98; Michael Angelo continued creating up to the time of his death at 89; at 80 Cato took up

the study of Greek and became an expert scholar; Victor Hugo died unexpectedly at 83 in the full possession of all of his powers; Tolstoy in similar fashion was active until 84 when he expired from pneumonia; Sarah Bernhardt gave probably her greatest performance at 78; Pavlov, the Russian physiologist, was full of creative energy but died suddenly of an infection at 86; at 85 Thomas Edison was making elaborate plans for future activity, and a number of important discoveries crowned his later years; Toscanini just recently celebrated his eightieth birthday, and Koussevitsky at 73 is the conductor of the world famous Boston Symphony Orchestra. Especially, Russian literature is replete with numerous examples of distinguished accomplishments on the part of centenarians.

In the experience of everyone there are friends and acquaintances who have demonstrated a zest for living, and an ability to perform the daily duties which is an inspiration to all who see them in action. With an extension of the life span the quality of that extension determines its real value. Certainly society is not hoping for an increase in the number of senile individuals in their second childhood who require custodial care. It is the content of daily living and the continued useful assignments which represent the principal need of individuals in the later years.

### *Physiologic Aging*

As so many individuals are living into the later years of human existence the problems of aging acquire greater importance. Time has been described as the fourth dimension of human existence. The aging processes taking place in the human body vary in velocity at different stages. Physiologic time has a much greater velocity in youth than in old age; that is to say, the younger an individual the more rapidly changes take place. The calendar of physiologic and

psychologic time is an individual problem inherent in each body. For example, one sees old men with spent tissues and hardened arteries in the forties, and on the other hand, comparatively young tissues with resiliency, elasticity and vitality, in individuals in the seventh and eighth decades. Accordingly, the process of physiologic aging may be speeded up or slowed down. To a considerable extent vitality may be inherited; however, of greater importance is the fact that protection of the tissues and a physiologic balance will slow the aging process of wear and tear and preserve the vitality of body cells.

DuNuoy has described two methods for measuring physiologic time; the first being the rate of wound healing, and the second the chemical changes taking place in the blood serum as cells age. As the body grows older the blood serum progressively acquires the power of slowing down tissue growth when cultivated *in vitro*. The younger the individual the more rapid is the rate of wound repair.

Charles Sedgwick Minot, professor of Embryology at Harvard some forty years ago, believed that the velocity of aging decreases as the body grows older. Minot showed that life begins with an incredible quantity of potential energy and the cells begin to age at conception. He stated that the growth of the embryo was much faster than the growth of the body after birth. DuNuoy, in numerical equivalents, has found tissue repair five times faster at the age of ten than at the age of 60.

In the early years of life, changes in physical and mental activities take place with rapidity, but the changes in elderly bodies take place slowly. Nature conserves tissues in older bodies. Now these facts are of great practical importance since a clear understanding of the aging mechanism will lead to an extension of the vitality of the body cells with the preservation of

optimum vigor of the organism.

Alexis Carrel performed some interesting experiments on tissues taken from the heart of an embryonic chick. By maintaining an optimum fluid environment these cells have continued to grow indefinitely. By changes in the nutritional ingredients utilized by the cells, the velocity of repair may be altered. While this work was experimental in character, Carrell stated that conditions influence the human body to accelerate or decelerate tissue and organic decay. He mentioned, in passing, infectious disorders and stresses and strains of daily living which aggravate degenerative processes. Senescence is ordinarily a very slow process.

Body tissues undergo important changes as they grow older. Dehydration is the result and not the cause of aging. Connective tissue fibers replace important specific tissues. In the elderly body the organs become small and hard with loss of elasticity. Bogomolets stated that the water content of a month old fetus is about 97 per cent, and that of a baby approximately 80 per cent. He stated that the body fluid in an elderly individual may fall as low as 65 per cent. As tissues age speed of recovery from injury slows down. As tissues age there is a diffusion, a dissipation of vital energy. As cells age they become more individualized, more highly differentiated. While this is an irreversible process, the rate of diffusion of energy may be slowed. Yesterday the human body had more energy than it has today. Tomorrow it will have less. Conservation of human energy, then, is the factor that will determine how long the individual organism will live.

#### *Man-Made Disease*

Many authorities have recorded their opinions that the human body is capable of satisfactory function well over one hundred years. Aristotle pointed out that the longer it takes for a body to reach full growth the

longer should be its life span. Buffon, quoted by Bogomolets, estimated that the probable life span of an animal is five to seven times the length of the period required to reach full growth. If full growth should mean the time when the bones of the body stop growing, then it is possible to estimate the approximate life span of animals. For example, a dog is full grown at two and has an expectancy of approximately 12 years; a cat is full grown at 1½ years with an expectancy of ten years; and a horse is fully grown at four years and has an expectancy of 25 years. If man is full grown physically at 25, then he should have an average normal life expectancy of 150 years. Authorities now are on record and indeed the statistics of life expectancy in our nation are beginning to confirm these impressions, that demise for individuals under 100 is the result of man-made pathologic changes: the lack of utilization of helpful knowledge with the special reference to nutrition, personal hygiene, prophylaxis, and the broader body needs of elimination, rest, and recreation. Indeed Haller, the physiologist of fame in the 18th century, stated man should live not less than 200 years. Metchnikoff maintained that the average length of life should be well over 100 years. What then are the factors to which the human body is exposed that shortens life?

Evidences of the neglect of the human body are numerous. Defective teeth, inadequate daily fluid intake, poor bowel function, poor posture, excessive ethylation, and other excesses accelerate the process of tissue deterioration. Then, too, there is the problem of destruction of human life by accidents, which take a toll in excess of the number lost in the most bloody of all wars—purely man-made disease due to reckless neglect of the potentialities for successful living.

Statistics indicate that overweight is one



of the commonest causes of premature exit from this life. Other data have demonstrated a close relationship between increase in the blood pressure and shortened life span. Numerous experiments have demonstrated the association between fat-rich diets and premature atherosclerosis. Too many people are dying prematurely of coronary disease. Timothy Leary in 1934 made an interesting comparison of experimental atherosclerosis in rabbits compared with human coronary atherosclerosis. He concluded that there is a high degree of coronary tissue degeneration, the result of faulty fat metabolism. He also found a substantial degree of coronary artery disease among individuals who were on low fat diets.

Atherosclerosis is the early predominant lesion in degeneration of the cardiovascular system. The relationship between specific nutritional factors and the development of atherosclerosis in man has repeatedly been studied. Recently Wilens showed that prolonged under-nutrition retards the progression of atherosclerosis, and over-nutrition accelerates it. In regions such as China, where under-nutrition is widespread, there is very little atherosclerosis found. Wherever overweight is common atherosclerosis is common. In non-hypertensive younger persons there is no difference in the severity of atherosclerosis between those of average and those of poor nutrition. Wilens warns though that this observation cannot be completely accepted since the incidence of the lesion may have been artificially raised by the inclusion of formerly obese individuals who lost weight shortly before death. Obesity is probably less important than either high blood pressure or advanced age in promoting atherosclerosis. The state of nutrition is of great importance in the cause of atherosclerosis.

Atheromatous lesions are common in individuals over 60 years of age. The most advanced lesions are found as a rule in

the distal third of the aorta and iliac arteries. The most disastrous lesions of atheromatous nature are found in the heart, brain, and lower extremities as emphasized by Dock.

According to the editor of *The Journal of the American Medical Association*, more than one in five physicians' deaths are due to coronary disease.

As coronary atheromatosis involves only the larger epicardial branches of the coronary arteries and arises only in the intima, Dock pointed out that the principal cause of the death of American men during their period of greatest productivity is to be sought in the peculiar susceptibility of a minute portion of the coronary intima.

One of the most important factors in the etiology of atherosclerosis is the level of blood cholesterol; this increase, however, is not more frequent in men than in women. The level of the blood pressure is an important factor in determining the location and extent of atherosclerosis. Dock quoted Master et al as finding a greater incidence of myocardial infarction in individuals with high blood pressure than in those with normal tension. Investigation of the thickness of the walls of coronary arteries in the epicardium reveals that the intima is much thicker in males than in females. This anatomic variation is demonstrable in newborn infants. The relatively greater thickness of the intima of the coronary arteries in males is believed by Dock to be the basis for the preponderance of atherosclerosis in males.

Atherosclerosis, the forerunner of arteriosclerosis, is believed to be a degeneration resulting from disturbances in cholesterol metabolism. This initiates the degeneration. Then the stresses and strains and continued emotional shocks of daily human existence determine the localization of the degeneration. After years of progressive degeneration the blood vessels lose their resiliency and calcium is deposited, in reality,

as a saving or protective mechanism to keep the vessels from breaking open. It is interesting to know that, experimentally with the use of thyroid and iodine, the cholesterol does not solidify in the intima of the blood vessels since these two substances are solvents. Unfortunately the determination of the blood level of cholesterol is not accurate proof that earlier in the individual's life cholesterol-rich foods were not eaten.

Only recently a significant experiment has been concluded which began in 1942 and was conducted by Dr. Henry C. Sherman of Columbia University. He found that rats fed twice the amount of vitamin A recommended for humans lived 10 per cent longer than normal rats, remained in the prime of life for a longer period, and had an extension in their power of sexual reproduction. The normal life span for female rats is 724 days. When vitamin was doubled it rose to 801 days, and when the vitamin A content of the diet was redoubled life extended to 830 days. The reproductive period of the female rat, which is normally 265 days, under the doubled vitamin A intake became 312 days, and when redoubled 369 days. Sherman concluded with the statement that higher allowances of vitamin A in the human nutrition are desirable.

#### *Common Disorders of Later Years*

Medically speaking, the problems of later years are principally the degenerative disorders. The most common disorders afflicting the elderly individuals are cardiovascular disorders, arteriosclerosis, hypertension, nephritis, cancer, arthritis, anemia, respiratory tract infections, diabetes, and mental deterioration. The heart and vascular system certainly have been subjected to severe stresses and strains through the most turbulent years in the history of the human race. Statistics show that some 336,000 individuals in 1946 died from cardiovascular disorders. This number equals the total of the next three or four most common causes

of death. Cancer exacted a toll of some 160,000 lives.

Heart disease with high blood pressure and arteriosclerosis, cancer, and arthritis represent the most common and troublesome group of disorders afflicting elderly folks.

Diabetes appears most frequently in the late middle years but should be of no consequence as a medical challenge in the later years. Treatment is simple but exceedingly important since, when untreated, complications sooner or later are bound to appear and become very troublesome.

Nutritional disorders are widespread and are the result of neglect. Sufficient is known concerning the nutritional needs of individuals of any period of life, yet the appearance of nutritional anemias, underweight and resulting fatigue make up the most often found disorders of the later years. Not rarely does such neglect greatly increase the vulnerability of some individuals to some infectious process which may become destructive.

A number of interesting experiments in the field of nutrition carried on by Sherman, McCay, and other authorities, furnished us with an abundant fund of helpful data that should be utilized in treating elderly people. Specifically, the most common deficiencies on dietary surveys have proved to be iron, whole vitamin B complex, and calcium. Each of these may readily be corrected.

Obesity in elderly patients is definitely life-shortening and exceptions to this only prove the rule. As folks grow older they need less food. The living fire burns less brightly although just as warm. The body cells economize as they grow older. At all stages, however, it is of first importance to have proper and adequate fuel, but not too much.

#### *Diagnosis of Diseases in the Elderly*

Physical and mental disorders produce a clinical picture in elderly patients which in

certain aspects does not parallel the findings in younger patients. Frequently perception is sluggish on the part of the patient and reactions may be delayed. There is, as a rule, a loss of vigor throughout the entire organism. The physiologic reactions are not so pronounced; metabolic functions are diminished; secretory functions are as a rule lessened, especially in the gastrointestinal tract. Diminished function, however, cannot be interpreted as a sign of disease, but should be interpreted as part of the aging process. They may color the reaction of the patient and create a picture of diseases characteristic of the older individual.

Functional disorders are just as likely to appear in elderly patients as in those of lesser age. The elimination of fatigue is to be kept in mind as an undesirable influence placing a drag on body functions which renders them more vulnerable to any passing germ. There is decreased enzyme action and a reduction of digestive ferments in the saliva and gastric secretion when elderly folks become tired; this interferes with the normal processing of food. Elderly individuals do not have the prompt blood sugar response for increased effort. The blood sugar curve quite often extends into the lower values, producing weakness and fatigue. This condition is notoriously unfortunate for the myocardium. Attacks of chest pain during the day and not rarely after midnight are caused by diminution in the blood sugar level. The rapid depression of blood sugar following the injection of insulin exposes heart action to unnecessary dangers. Prolonged emotional strain consumes energy and, of course, depletes body reserve once more adding to the patient's already limited capacity.

In order to have the complete picture it is necessary to discuss phases of the patient's problem with members of the family. We all become forgetful as we grow older, and sometimes our impressions as patients may

not be strictly in accord with the facts. Members of the family who have watched the individual as his illness has developed may furnish helpful hints that will aid in arriving at a correct diagnosis on which satisfactory treatment can be based.

#### *Preventable Deterioration*

Man-made pathologic changes represent a series of preventable destructive processes. Sherman, McCay, and other investigators have proven experimentally the intimate association between tissue vitality and extension of the life span. Therefore, one of the basic conditions for reducing the premature deterioration of body tissues is a diet adequate in certain essentials, the vitamins, minerals, and specific proteins, and low in fat.

Attractive suggestions are available from the experience of specialists who treat diabetic patients. There are many diabetics who are living longer with their disease than they would have lived without it. By intelligent application of methods of wholesome living, these individuals are really getting a great deal more out of life than their so-called normal compatriots. Indeed diabetic individuals seem to have so much more energy and enthusiasm when the disease is well controlled that one wonders why they can accomplish so much more than non-diabetics. Metabolic disorders, when properly treated in the light of modern medical knowledge, offer excellent examples of preventing deterioration of the various systems of the body.

As folks grow older they need correspondingly less food. Since this fact is becoming more generally known, minor digestive complaints are responding most satisfactorily to alterations in the diet. Some time back we had occasion to study the dietary practices of some 200 individuals over 60. A summary of the findings demonstrated a diet deficiency in calcium and iron in some 40 per cent of patients. A dietary survey



should be made on every patient over 60 regardless of the individual's primary complaint. A proper nutritional program is essential to a healthy old age. Of course, the body can stand many insults and overweight still continues as a common observation. Insurance statistics demonstrate the likelihood of longer life for slender persons.

The manifestations and complications of diabetes are entirely different than when this deficiency appears in infancy or childhood. The involvements of the heart and blood vessels ending in sclerosis are greatly accelerated in the diabetic. It is of the utmost importance that the elevated blood sugar be brought to normal by a program of diet, insulin, and exercise. Such therapy, while it will delay, will not eliminate the vascular degenerative processes. Indeed some authorities state that disordered metabolism is the most frequent cause of the degeneration of the cardiovascular system.

Small amounts of insulin have been used with gratifying success in tonic doses for individuals in the later years, particularly those with a sluggish metabolic response who have diminished tolerance for carbohydrates. These disturbances are far more common than is ordinarily believed. They are easily identified and promptly responsive to adequate management.

Vital statistics indicate that approximately half a million people died in 1946 from some form of cardiovascular collapse. Whether the lesion was due to hypertension, a broken or occluded blood vessel, the essential basic lesion is deterioration of the walls of the blood vessels plus an added strain in the form of alteration in the blood pressure. Let me emphasize that this is not a vascular problem so much as it is a wear and tear problem. Let us seek then to eliminate or at least minimize the wear and tear from improper nutrition and excessive drive—emotional and intellectual—which produce the devastating condition of cumu-

lative fatigue.

Folks may live additional years with defective tissues, provided the speed of living is governed by the margin of safety inherent in the damaged tissues. Even old cars and worn tires are capable of much greater usage with proper care.

#### *Physical Infirmary, the Friend of the Elderly*

Osler was credited with the statement, "If you want to live to an advanced age develop some infirmity." Many individuals have been stricken with some disorder which reduced their physical capacity and placed them in the vulnerable group. With acceptance of their status, and the rearrangement of their activities, these folks have gone on into new spheres of moderated activity and a larger enjoyment of living than was their lot preceding their supposed ill fortune. In this way afflictions may create a new defense, especially in the later years, that will extend the life span.

Arthritis is the most common disabling affliction of the elderly patient. In no way is the mental acumen of these patients interfered with. Limitation of locomotion may in the resourceful person create greater opportunity for intellectual pursuits. Elderly individuals afflicted with tuberculosis have created some of the world's finest literature, and doctors following coronary occlusions have, on occasion, made their most significant contributions to this disease; for example, Sir James Mackenzie.

#### *The Extension of Maturity*

Warthin divided the life span into three episodes: evolution, maturity, and involution. The human body reaches physical maturity at approximately 25 years of age. With an increase in the life span there has obviously been an addition to the number of productive years of human existence. This has been brought about by the control of those diseases and destructive processes that formerly exacted a high toll in terms of human life. At the turn of the century a man

was ready for retirement when he approached 50 years of age. Today the half century mark finds many individuals at full bloom of productivity. The problem facing each of us, as time passes by, is to conserve energy, minimize wear and tear, protect vulnerable tissues, especially the heart and arterial system, and the nervous system.

Fatigue in my experience is one of the major causes of premature demise. Tired doctors, tired lawyers, tired businessmen all invite coronary occlusions by the dozen. Mounting tensions, frayed nerves, worried minds, shorten life and detract from the zest of living. It is one of those anachronisms that doctors of medicine who should know most about the balanced life are the worst offenders. Someone has recently stated that, from the years 50 to 60, doctors are three times more likely than those in other walks of life to have coronary occlusion. Some definite relationship must perforce exist between fatigue and vascular accidents. The eternal drive for success, resulting in exhaustion and ultimately sustained high blood pressure, is a definite medical problem amenable to treatment when desired. The necessity for saving of energy should be learned before too great a depletion takes place.

It was Sir James Paget, among others, who stated that fatigue played a large role in the promotion and transmission of disease, more than any other single factor, not only in industry but in all walks of life—in the professions, labor, and wherever so-called civilized man lives. The tension of the day produces a fatigue that is the most important contributory factor to the degenerative lesions of the human body. No special tests are necessary for estimating the presence of fatigue.

Fatigue due to emotional and nervous causes is of greater medical importance than simple body fatigue. When long present it

invites excessive wear and tear that may lead to ultimate disaster. By repeated emphasis on such a common cause of human deterioration it is to be hoped that its importance will be accepted.

Geriatrics, that is, the clinical study of diseases of the middle and later years of life, is rapidly becoming a very important branch of medical practice. When medical science has brought about an effective control of these diseases there will be a spectacular extension in the span of human existence, and medical science is rapidly gaining new insight into these problems. On that account it behooves society and our profession to take cognizance of the social and cultural implications of large numbers of individuals living nearer and nearer the century mark. Indeed a great deal can be done to conserve energy, maintain vitality, and delay the ravages of old age.

The elderly patient is a law unto himself. Here more than at any other period of life needs the doctor treat the patient rather than the disease. With elderly folks, not rarely the lesion is subordinate to the individual himself. In graciously handling elderly patients the doctor's first obligation is to the patient himself. Exhaustive investigations and overly aggressive treatment do more harm than good.

Then, too, therapy for the elderly patient is a special problem. Drugs are likely to act more slowly and produce quite an opposite reaction from what the doctor may have expected. Slower absorption and cumulative action may cause harm. Opiates should be used rarely. Probably the most useful aid in treating the elderly patient for common ailments is spiritus frumenti. It may act either as a tonic or as a sedative. The less folks have taken of it before 60 the more valuable it oftentimes is in the later years.

Whatever the specific complaint of the geriatric patient, certain basic requirements

should be kept in mind for a vigorous and well-balanced enjoyable old age. There are ten brief points which might be listed as essentials for a successful career in the later years:

1. *Diet.* As folks grow older they need less food since, as emphasized before, the body requires less energy because it spends less; as older folks are likely to be less active muscularly, there should be a corresponding reduction in the total quantity of food intake. Since bowel action commonly becomes sluggish, a diet rich in fresh fruit, green vegetables, and adequate liquids, with less starches, sugar, fats, and heavy proteins, is more readily tolerated. When anemia is demonstrated dietary correction is, of course, essential. Additional quantities of liver, iron, whole vitamin B complex, and calcium are beneficial.
2. *Adequate elimination.* The bowels should not be permitted to become sluggish. The kidneys should be flushed with approximately two quarts of fluids daily, and the skin should be kept clean and adequately utilized as a means of body cleanliness. One might go further and include psychocatharsis as a benefit in keeping the elderly individual well oriented, active, and engaged in purposeful pursuits.
3. *Rest.* Sufficient rest of the body and nervous system and the psyche of individuals in the later years is particularly essential to ward off the enervating effects of fatigue. This is of particular importance when the walls of the cardiovascular tract lose their resiliency and begin to harden. Rest is not often an abused practice as folks enter the later years. It gives opportunity for recreation of physical and nervous reserve power.
4. *Purposeful activity.* Replacement in the worried mind of a positive motive is an important factor in minimizing the adverse effects of worry.
5. *Emotional control.* Older folks don't do well when they subject themselves to the consuming fires of anger, rage, and fear. How commonly doctors have found a vascular accident immediately following a temper tantrum.
6. *The preservation of a sense of humor.* How important that is. The somber temperament wears out more rapidly than the merry heart. After all, older folks who have escaped the accidents and storms of the early years have cause for a happy heart.
7. *The cultivation of contacts with younger individuals.* Such friendly bonds pay rich dividends. Age has much to learn from youth, and youth should profit from the mature experiences of their elders.
8. *Intellectual growth is a major sign of maturity.* A new approach to an old problem is an extension of one's intellectual frontier. "Age has its opportunities no less than Youth itself, and as the evening twilight fades away the sky is filled with stars invisible by day."
9. *Continuous education.* This thought is in keeping with recommendations of authorities who have investigated possibilities of study on the part of older individuals. In this way they continue to grow and participate in the thoughts of the world's great minds. Furthermore, they are better able to take on new responsibilities and enter new realms of interest.
10. *Never retire.* Never retire to a life of complete inactivity. It is far more desirable to wear out than to rust out. By the development of new pursuits when one is asked to withdraw from a facul-



ty, a bank, an industry, or other occupation, one can make a wise investment in his new found leisure.

George Washington retired three times in his life. After each time he became neurotic and introspective. He complained of a number of inconsequential functional disturbances. In other words, the father of our country became neurotic when he retired from active service. Washington was born in February, 1732. After he had retired from command of the Virginia militia in 1758 because of ill health he wrote, at the age of 26, "I have now too much reason to apprehend my approaching decay." However, in June, 1775, at the age of 43, he returned to command the Continental Army and, of course, distinguished himself. In 1783, when he was 51, he wrote "The scene is at length closed. I will move gently down the stream of life until I sleep with my fathers."

As a rule when an individual retires too often there is no opportunity or outlet for continued activity which is necessary to a satisfying existence; immediately one begins to live in the past. With the loss of sustaining habits the elderly person becomes depressed and his attention is directed to the organs of the body in search for signs of debility. There is a prompt diminution in vitality, and the joy of living gives way to a wearisome discussion of one's misfortunes. Successful existence at any age requires an all-absorbing motive.

The problem of retirement is a challenge to industry, labor, and the professions today because many men are at their most productive capacity just at the period when the age limit is reached. Many have ten, fifteen, or twenty years longer of useful service. To ask them to retire is detrimental certainly to em-

ployers and employees alike. Some other method needs to be selected to find out when a man has ceased to be useful in one particular position. This may be determined by his employer, his physician, and himself. Appropriate recommendations should then be decided for the utilization of his newly-won leisure. Charles W. Elliott, in his late eighties, was so engaged with new pursuits that he had a ten-year program worked out, and indeed he lived until the ninety-third landmark of his life.

### *Is Longer Life Possible?*

There can be but one answer to this question and that in the affirmative. The trend of medical science and social organization is all in that direction.

Bogomolets stated that there are more than one million Russians 100 years of age or older. He has gone on record that human beings should ordinarily live to be 150 years of age. Stieglitz more recently has stated that the normal life span should average 110 years.

The ultimate extension of man's useful life span will be determined by the control of those adverse influences which are destructive to human existence and society. The potential advantages from the intelligent use of atomic energy are far-reaching. Society is today faced with the challenge of preserving human life into years where formerly those who reached them became consumers rather than producers of socially useful services. The abilities of older folks will have to be utilized in the maintenance of a stable social structure. This is of even greater importance to the individuals themselves than to society because only by leading a purposeful existence can the extension of the life span have any individual or social value.

### *Real Security for the Elderly*

Social security for individuals over 60

years of age has become a national challenge. This is, of course, due to the large number of elderly persons without visible means of financial support. As the elderly continue to increase in number, and we all join their ranks, security becomes the No. 1 challenge for the majority. While financial support is essential there are other necessities of more important qualitative value. A basic need is for society to create useful outlets for the abilities and resources of elderly folks. Schools, clubs, religious activities, and institutional programs are springing up all over the nation in response to these needs of the elderly. Absorbing motives are necessary for older folks to give their lives meaning. The new knowledge of disease prevention, nutrition, and other health productive measures, is extending the useful years of men and women with a corresponding shortening of the period of ultimate decay.

Useful activity adds dignity and beauty and significance to life at the summit of the years. The physical infirmities can be minimized by modern medicine, and fatigue of anemia and emotional exhaustion will respond to corrective methods, and the older body today is still capable of socially helpful employment. Outlets for the abilities of elderly people must be found if society is to gain from their presence.

Mature minds capable of wise counsel on international problems are needed in the world today. With maturity should come a better understanding of the perplexities facing mankind. Perhaps the increment of older men and women may finally be the source of international stability, which at present is the dilemma that appears incapable of solution.

Social security will be endangered by the production of a large consumer group in the upper age brackets. It is, therefore, of great importance to maintain the productive capacity of each individual at optimum level

as he grows older. Science cannot abandon the elderly people whose lives have been saved by its benefits. This is the crux of the aging problem, to find useful employment for the elderly to give their later years significance, and to maintain them as contributing members of the body politic. Every practicing physician knows of frequent examples in which mental disturbances have been precipitated by the withdrawal of older folks from useful occupations.

### *The Summit of the Years*

The later years of life are the harvest of human existence, the period when annuities in the form of wise development of useful traits and talents have gained experience by trial and error and knowledge of pitfalls. As one approaches the summit of the mountain top the view has a grandeur unmatched at lower levels. Impatience gives way to tolerance, and a deeper understanding of the enduring values of human relationships and interests crowns the harvest time, the later years.

An all-absorbing motive qualifies human existence with increasing importance as one grows older. The ability to project oneself and dedicate one's powers in useful activity is abundant insurance for a successful and happy senescence. An aimless and parasitic evening of life can be avoided by appropriate planning in the earlier years. The society that encourages the utilization of its older members is assuring itself a longer period of existence.

Speaking at a banquet in Canada given in his honor, Sir William Mulock, the oldest serving judge in the British Empire, Chief Justice of Canada, then nearly 90 years old, said: "I am still at work with my hand to the plough and my face to the future. The shadows of evening lengthen about me, but morning is in my heart. I have lived from the forties of one century to the thirties of the next. I have had varied fields of labor,

and full contact with men and things, and have warmed both hands before the fire of life. Always farther on.

"The testimony I bear in this: that the castle of enchantment is not yet behind me, it is before me still, and daily I catch glimpses of its battlements and towers. The rich spoils of memory are mine.

"Mine, too, are the precious things of today—books, flowers, pictures, nature and sport. The first of May is still an enchanted day to me; the best thing of all is friends. The best of life is always farther on. Its real lure is hidden from our eyes, somewhere beyond the hills of time."

#### *Future of Old Age*

So finally we come to the interesting query, What is the future of old age? Is it a period to be dreaded or are there compensations in having lived a useful career that has brought emoluments of lasting value which serve as a margin of support around the needs as the shadows lengthen and evening draws nigh. Some time ago there was a Youth Movement, and now it is high time for an Age Movement according to Ralph Barton Perry, the distinguished professor of Philosophy at Harvard. In his reflections on senescence he quotes from DeSenectute from Cicero as follows: "Intelligence, and reflection, and judgment reside in old men and if there had been none of them, no state could exist at all. Old age, especially an honored old age, has so great authority that this is of more value than all the pleasures of youth." Whether a man shall live in the past or in the future is for him to determine. Time extends in both directions. Every anniversary is the opening of a new era rather than the closing of an old. Each stage of life has its interesting experiences and its own pride.

The crowning achievement of life it would seem is the ability to grow old gently and gracefully—beloved of all with happy

memories of a useful existence. To attain the ultimate and final success in growing old gracefully for each of his patients, the practicing physician today needs to have a clear understanding of the major problems of the later years.

#### EXPERIENCES WITH A NEW METHOD FOR THE CONTROL OF INTRATHORACIC ANEURYSMS

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At the present time there is no absolutely satisfactory method for the control of aneurysmal disease of the major thoracic vessels. Many methods have been attempted, and the multiplicity of these attempts indicates the degree of satisfaction obtained to date. The attacks upon such lesions consist, essentially, of four major modes of attack. The first, and most satisfactory, is the removal of the aneurysmal diseased area; and, wherever practical, this method should be followed. A second method is reconstruction of the wall of the aneurysm such as the so-called "internal plication," which was described by Matas. A further method is an attempt to produce sufficient endoarterial clotting to reinforce the wall and prevent rupture. This is the familiar method of wiring of aneurysms, with the application to this wire of an electrical current in order to produce the clotting mechanism. A fourth, and more recent method, has been the attempt to increase the thickness of the wall of the diseased vessel, and to cause sufficient strengthening therefrom to prevent rupture, with the hope of progressive constriction by this periarterial reaction to cause obliteration of the aneurysmal sac.

In the brief time allotted for this presentation, we will confine ourselves to the lat-

From the Department of Surgery, Emory University School of Medicine.  
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ter method with which I have had experience over the past three years.

In 1939 the irritative properties of cellophane were first described by Page, when he utilized this material in the wrapping of the kidneys of dogs for the production of experimental hypertension. He noted a marked tissue reaction within three to five days following the application of this substance which progressed to a constricting, dense, fibroblastic, and collagenous formation upon the surface of the kidney, varying from three to five millimeters in thickness. This reaction was noted to be present within two weeks of the operative procedure. Pearce, in 1940, applied this principle of chronic progressive irritative fibrosis, by placing 300 P.T. cellophane in close proximity to the major vessels of dogs. In the same year the substance was applied about a patent ductus arteriosus in a human patient by Harper and Robinson, with satisfactory results. In 1943 the first reported experience in the use of this material in the treatment of human aneurysms appeared from two Indian workers; namely, Harrison and Shamdy, with the successful control of an aneurysm of the axillary artery in one patient. Complete obliteration of the lumen of this vessel occurred in nine months.

In view of conflicting reports concerning the irritative properties of cellophane, Drs. Poppe and deOlievera carried out experimental work in 1945, which showed that the different varieties of commercial cellophane varied extremely in their physiological reaction. Studying five different basic types of cellophane revealed that the reaction varied, from essentially no irritative properties, to extreme fibroblastic activity. The reactions to individual types of cellophane were found to be consistent, and the most satisfactory reactive form consists of 1.5 mil. polythene cellophane. The least reactive types are those classified as "moisture resistant" cellophane.

The application of this method of treatment to aneurysms, especially of syphilitic origin in the human patient, was first carried out by Dr. Evarts A. Graham and Dr. Poppe, of St. Louis. Having been associated with these men in this work, I was stimulated to carry out further work with these substances during the past two years and have increased the field of application to aneurysms, not only of syphilitic origin but also those of arteriosclerotic and dissecting types, as well as aneurysms of congenital origin.

It should be stressed that although a two-year period has ensued since the beginning of this study, the satisfactory evaluation of this mode of therapy cannot be achieved until a five-to-ten year interval has passed. We are all familiar with the protean types of courses which aneurysms may follow in different patients. As we know, some may remain asymptomatic, and present from ten to twenty years and the patients ultimately succumb to an entirely unrelated disease. Others may have a fulminating course with obstruction of vital organs, such as the trachea, bronchi, or surrounding thoracic vessels, and still others may rupture at an early date. Inasmuch as this study consists essentially of clinical investigation its use and application have been restricted to, what have appeared to be, desperate situations. This has placed the method under rather difficult trial and thus makes the present apparent results even more gratifying.

To date, this therapeutic approach has been applied upon two aneurysms of congenital origin; 11 aneurysms of syphilitic origin; one aneurysm of probable rheumatic origin; and one of the dissecting type. The vessels treated to date consist of the ascending aorta in its intrapericardial portion in 1 instance; the aortic arch in 3 instances; the descending portion of the arch in 2; and the remainder of the thoracic aorta in 7 instances. The discrepancy in the number of aneurysms and the number of pa-

tients bring out the fact that in patients with syphilitic aneurysm, four patients have been found to have multiple aneurysmal disease. It is also worthwhile to note that aneurysms of the thoracic aorta have occurred in patients who also had aneurysms, either of the subclavian artery on the left, or, the innominate artery. Four patients were found to have aneurysm of the innominate artery only, but they all had sufficient disease extending down to the ascending aorta as to preclude the possibility of immediate transection of the innominate artery at its base.

In 1 instance it was necessary to wrap an associated "false sac" of an aneurysm of the innominate artery and this patient was treated nineteen months ago, at which time there had been erosion through the sternum with a presenting subcutaneous extension of the aneurysm. Following application of the polythene cellophane this visible projection of the aneurysm was noted to disappear over a period of twelve months of the patient's course. Although it was emphasized to the patient that this area should also be locally treated, she has refused such second operative procedure and is, therefore, under observation to note the gradual return and increase in size of this area of the aneurysmal disease. The disease within the thorax which had been treated has definitely decreased in size. The superior vena cava which formed part of the wall of the false sac, and therefore was included within the cellophane, was noted clinically to become obliterated two months following the original procedure.

It is important to note that in 1 instance a patient had a double aneurysm consisting of the arch of the aorta, and a larger sac involving the diaphragmatic portion of the aorta, this latter aneurysm having produced a fistula into the bronchial tree on the left side. This patient was seen in a period of

acute distress with very active hemorrhage, and was operated upon as an emergency, the aortobronchial fistula was transected, transfixed, and the wall of the aneurysm treated with cellophane. In view of the patient's acute condition, it was not felt advisable to carry out extensive wrapping of the aneurysm of the arch at this time. The patient made an uneventful recovery and had no return of hemoptysis for a period of seven months, at which time there was a sudden and fatal hemorrhage from the upper aneurysm which had not been treated. The intervening seven months' period had been comfortable and the patient had carried out productive work. This exemplified, therefore, the application of this method not only to aneurysms but to the aneurysmal complication of aortobronchial fistula.

The only other fatality, following application of this principle to syphilitic aneurysms, occurred in a patient with aneurysm of the subclavian artery on the left in association with a major aneurysm of the aortic arch. This patient was seen in severe respiratory distress because of compression of the bronchial tree, and associated longstanding complete atelectasis of the left lung. An initial decompression procedure was carried out, followed in one month by application of cellophane to the diseased vessels, and the patient returned to full activity with return of function of the left lung, and did well until five months later at which time she succumbed to an occlusion of the anterior descending coronary artery. Unfortunately, postmortem examination was not permitted.

The remainder of the patients having luetic aneurysms so treated have carried on satisfactorily. Follow-up x-ray examination shows an initial enlargement of the aneurysmal shadow, followed thereafter by a very slow, but progressive, decrease in the size of the mass.

The one patient with massive dissecting aneurysm, involving the entire descending portion of the thoracic aorta, was treated in view of intractable pain. He was operated upon five months ago and since that time has had relief of this major symptom, but as yet the aneurysm has not shown any definite decrease in size. The one patient with aneurysm felt to be secondary to rheumatic fever was a 32-year-old white female who had had very progressive, increasing dyspnea and fatigability. A large mediastinal mass had been noted for one year and there had been the recent appearance of a thrust and bulging of the upper anterior left chest. Angiocardiographic studies revealed that this was a massive aneurysm of the main pulmonary artery, and the patient was explored. A huge aneurysm within the pericardium was found and cellophane applied to it. The patient did well for six days postoperatively, and then succumbed to a very rapid and malignant cardiac arrhythmia. An autopsy revealed a very small coronary occlusion. It was felt the major cause of death was due to irritative properties of the cellophane where, as its extension, it lay upon the auricular and ventricular wall. Further consideration of this mishap has led us to the underlying principle that cellophane, allowed to come in contact with such irritative foci, should have an underlying layer of the non-irritative type of material.

In the one patient who had an aneurysm of the ascending aorta within its pericardial area, in which cellophane was allowed to lie over the coronary sulcus and upon the wall of the ventricle, we can only classify ourselves as having been extremely fortunate not to have any such arrhythmia and to have had an uneventful postoperative course for the ensuing thirteen months to date.

In the patient with an aneurysm of the pulmonary artery there was found at autopsy to be localized, very extensive degen-

erative disease of the pulmonary arteries and arterioles, so that we cannot feel that, even had she survived the procedure, we would have produced any necessary benefits.

The two patients having aneurysms which were felt to be upon a congenital basis, have done well following the application of this material. The first patient is a white male, 34 years of age, who has been known to have a cardiac murmur since birth. His lesion, however, had been acyanotic until four years previous to operative intervention, at which time there was the onset of frequent and repeated bilateral pneumonitis. Huge, bilateral, mediastinal masses had been noted two years prior to our seeing the patient for which he had been given two courses of deep x-ray therapy at another clinic. This patient was studied by cardiac catheterization and angiocardiographic methods, revealing that the lesion consisted of massive aneurysmal dilation of the pulmonary arteries, especially the left pulmonary artery. Extensive compression of the left mainstem bronchus had occurred with multiple areas of patchy atelectasis. Patient was studied bronchoscopically, revealing marked external compression and some scarring of the orifices of the major bronchial branches. These were very gently dilated with removal of retained purulent secretions and definite improvement in the patient's condition. It is of extreme interest to note that this patient was found to have a pressure of 125 millimeters of mercury in the right ventricle, by cardiac catheterization means, while that in the left ventricle was 108 millimeters. Despite this discrepancy of the two sides of the heart, the patient had not presented evidence of cardiac failure.

Following four months of observation, the patient had a severe episode of hemoptysis coming from the left upper lobe and producing a measured amount of 800 cc. of whole blood in a one-hour period. The sit-



uation appeared desperate and therefore radical measures were instituted. These measures consisted of application of cellophane to the left pulmonary artery, and the first three branches going to the left upper lobe. This procedure was carried out January 12, 1947 and the patient made an uneventful recovery. He has been able to carry out full-time work since then with a definite increase in respiratory capacity, as well as decrease in size of the left pulmonary artery. This patient is now being re-studied with the view of probable similar treatment to the right pulmonary artery. It is felt that this patient has a very large interauricular septal defect, and that this is the basic cause for the pulmonary artery disease.

The second aneurysm of congenital origin consists of a most unusual case, which will be separately presented in another publication, in which there was an abnormal formation of the aortic arch and its descending portion from the normal anlagen, forming essentially a partial, double aorta with side-to-side anastomosis and secondary multiple areas of aneurysmal destruction about this area of communication. The patient is a 27-year-old white male veteran who had been essentially asymptomatic and whose lesion had been discovered by x-ray on discharge from the service. He had been treated by deep radiation therapy prior to coming under our investigation, at which time he was found to have a systolic and diastolic murmur over the 1st and 2nd interspaces to the left of the sternum, as well as to have a persistent difference in the blood pressure in the two arms so that in the right arm constantly was found to be 30 to 40 points higher than that in the left. Multiple angiocardio-graphic studies were carried out and the lesion was found to be an aneurysmal disease of the descending portion of the aortic arch. An exploratory operation was carried out and cellophane wrapping applied. This patient has recovered well from his opera-

tive procedure, but this was only carried out eighteen days ago and it is too early to note any changes, other than the factor that the murmur has shown some decrease in intensity.

In view of the extreme rarity of this specific lesion, it is fortunate to be able to state that satisfactory technicolor photography motion pictures were obtained at time of the operative procedure.

### *Discussion*

I have briefly outlined experiences with 14 patients with aneurysms involving essentially all the major thoracic vessels, and this report must be considered in the nature of a preliminary discussion inasmuch as a satisfactory period of observation for final analysis must include at least a five-year post-operative period.

The majority of patients treated had aneurysms of syphilitic etiology. It should be mentioned that no patient was operated upon who had an associated aortic insufficiency, inasmuch as we have felt that this disease was probably of more significance to the patient's prognosis than the actual aneurysm. The patients with syphilitic aneurysms had been given associated intensive penicillin therapy for their underlying luetic disease. The patients treated have all been considered as desperate cases and many have had sufficient compression of the tracheobronchial tree to necessitate preliminary decompression measures. These consisted in methods of interruption of the continuity of the thoracic inlet in order to relieve bronchial edema and associated major pulmonary atelectasis prior to entering the thoracic cavity to institute the necessary cellophane application. It is also felt that where cellophane is applied in the region of hypersensitive foci, such as the auricles, that these areas must be protected by an underlying layer of a non-irritative type of cellophane.

I am cognizant that some preferable

agents may be found for this type of work, and am at present considering the use of aluminum foil. To date, it is felt that this method of approach offers reasonable hope for this type of patient, and follow-up study of these patients will be assiduously maintained.

### *Conclusions*

1. Aneurysmal disease of the thoracic vessels constitutes a serious hazard, both because of compression of surrounding vital structures, and because of the danger of spontaneous rupture.

2. One and five-tenths mil. polythene cellophane has been applied to these aneurysms with decrease in the size of the lesion and relief of associated pain.

3. Patients with such lesions, presenting associated atelectasis, demand preliminary thoracic decompressive operative procedures.

4. The results of this type of procedure, to date, have been sufficiently satisfactory to warrant continued application and study of this method for control of non-resectable aneurysmal disease of thoracic vessels.

NOTE: The cellophane used in this study has been provided through the courtesy of the DuPont de Nemours & Company, Wilmington, Delaware. The author wishes to express his appreciation to Dr. H. Weens, of Atlanta, for his radiologic assistance throughout this work.

### ANNOUNCEMENT OF VAN METER PRIZE AWARD

The American Association for the Study of Goiter again offers the Van Meter Prize Award of three hundred dollars and two honorable mentions for the best essays submitted concerning original work on problems related to the thyroid gland. The award will be made at the annual meeting of the Association which will be held in Toronto, Canada, May 6, 7, 8, 1948 providing essays of sufficient merit are presented in competition.

The competing essays may cover either clinical or research investigations; should not exceed three thousand words in length; must be presented in English; and a typewritten double-spaced copy sent to the corresponding secretary, Dr. T. C. Davison, 207 Doctors Building, Atlanta 3, Georgia, not later than February 1, 1948. The committee who will review the manuscripts is composed of men well qualified to judge the merits of the competing essays.

A place will be reserved on the program of the annual meeting for presentation of the prize award essay by the author if it is possible for him to attend. The essay will be published in the annual proceedings of the Association. This will not prevent its further publication, however, in any journal selected by the author.

## THE CLINICAL SIGNIFICANCE OF HEMOPTYSIS: A STUDY OF 1316 PATIENTS WITH CHEST DISEASE

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*Atlanta*

The purpose of this communication has been to try to evaluate the clinical significance of hemoptysis, to show its frequency of occurrence in pathologic lesions of the thoracic cavity, and to evaluate the diagnostic measures which we now have at hand relative to the symptom of pulmonary hemorrhage.

The data contained in this communication has been derived from a collection of 1316 cases contacted in several localities. Thus, a number of case records were derived from the Barnes Hospital, St. Louis, from the service of Dr. Evarts A. Graham. The data on patients with tuberculosis were obtained from the Laurentian Sanatorium, where one of us (O.A.A.) was carrying out work under the direction of McGill University. The remainder of the case histories have been encountered personally on the Chest Service at Emory University School of Medicine, the major proportion of the traumatic injuries and infarcts being derived from the Grady Hospital, Atlanta.

Thirteen hundred and sixteen cases have been reviewed, which have been brought to the notice of a thoracic surgeon. This, of course, constitutes a different group of patients than that which is seen by the consulting internist, especially in regard to hemoptysis of acute onset, in association with acute inflammatory lesions of the chest. No attempt has been made to correlate the solitary instances of hemoptysis in the usual case of

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lobar pneumonia, but rather the stress is laid upon the patient who comes in with hemoptysis as a diagnostic problem. No apology is made in regard to possibility that the figures presented for the percentage instance of hemoptysis in this series would constitute a similar percentage in a much larger and more composite group, but rather the attempt is to make emphasis upon what the clinical significance of hemoptysis has been in our personal experience. It is also important to stress that hemoptysis may occur without being noticed by the patient, or even too well remembered by him or her. This is particularly true in the case of the children who frequently swallow their blood, as is brought out by the comparative statistics upon the instance of hemoptysis in different age groups. It is also remarkable that hemoptysis is not a symptom which is necessarily emphasized by the patient, especially by the patient carrying a chronic lesion over many years, such as the bronchiectatic. It has been our experience, on many occasions, that these patients have had slight streaking, or even slight hemorrhages, over such a period of time that they might rather complain or take note of the absence of such material in their sputum.

It has also been our purpose in presenting this communication to try to put on a factual basis the instance of hemoptysis, **rather** than on a supposition basis which has so long continued, in which hemoptysis *per se* was considered to be tuberculosis. This concept continued until the recent decade, when a greater emphasis was placed upon malignant disease of the lung. From our personal experience and a statistical review of the same, it is felt strongly that much of the prevalent concept of hemoptysis is fallacious, and that an attempt to remedy this concept is fully justified.

The series of 1316 cases has been made up of patients covering a group from 7 to 81

years of age. The average age of the entire group was 39 years. The sex incidence constitutes 55 per cent male, and 45 per cent female. Of the 1316 cases, 421 gave a history of bleeding from the pulmonary tree, or 37 per cent of the entire group. This group of cases describing hemoptysis, subdivided as to sex, is shown to be 56 per cent male and 44 per cent female, and is essentially equivalent to the sex incidence of the entire series. It should be noted that the term "symptom" of pulmonary bleeding does not, of necessity, mean that the patient bled from the pulmonary tree. This is brought forth by the group of 8 patients whose only positive finding was rather advanced disease of the accessory nasal sinuses and 25 per cent of this group of patients bled from the upper respiratory tract, although their symptomatic complaint was of the lower respiratory tract. Of the bleeding which occurred, the term "streaking" is self-explanatory, and indicates the small amount of blood which may be brought up and marks, rather than colors, the sputum. This was seen in 33 per cent of the cases describing pulmonary bleeding. Sixty-seven per cent of those having hemoptysis brought up sputum which they described as being pure blood in varying amounts.

An attempt was made to correlate the incidence of bleeding with the involvement of individual pulmonary lobes. Inasmuch as many of the patients had bilateral disease, there was a certain proportion in whom the actual localization of the bleeding could not be determined, so that the total location of lesions, of necessity, represents a greater number than the total number of cases of hemoptysis. Localization of the lesions is outlined in chart 6. It was also of interest to note the relationship of hemorrhage to the onset of symptoms in chest disease. In many cases it was not possible to satisfactorily distinguish the actual first symptom



CHART I

## DISEASES ENCOUNTERED IN 1316 CASES PRESENTED

TUBERCULOSIS	302	FUNGUS DISEASE	9	PULMONARY EMPHYSEMA	3
BRONCHIECTASIS	239	SINUSITIS	8	PNEUMATOCELE	3
BRONCHOGENIC CARCINOMA	187	CARDIOSPASM	8	SILICOSIS	3
MEDIASTINAL TUMORS	70	TUMOR OF CHEST WALL	8	FUNCTIONAL DYSPNEA	2
LUNG ABSCESS	65	BRONCHIAL ADENOMA	7	BRONCHOGENIC CYSTS	2
TRAUMATIC CHEST WOUNDS	64	DIVERTICULUM OF ESOPHAGUS	5	AGENESIS OF LUNG	2
EMPHYEMA	53	DISEASES OTHER THAN THORACIC	5	BRONCHIAL ENDOMETRIOSIS	2
CARDIAC DISEASE	40	FOREIGN BODY	5	BRONCHOLITH	2
METASTATIC CARCINOMA	25	BRONCHIAL ASTHMA	5	LIPOID PNEUMONITIS	2
PULMONARY INFARCTION	25	BRONCHIAL ULCER	5	FLOATING RIB SYNDROME	2
CHRONIC BRONCHITIS	23	ATELECTASIS	5	EVENTRATION OF DIAPHRAGM	1
ESOPHAGEAL OBSTRUCTION	22	OSTEOMYELITIS OF RIB	4	HAMARTOMA	1
HEMOPTYSIS (UNDETERMINED ETIOLOGY)	19	MEDIASTINITIS	4	HEMATOMA OF LUNG	1
CONGENITAL CYSTS	19	BRONCHIAL STRICTURE	3	ENDOBRONCHIAL POLYP	1
NON-SPECIFIC PNEUMONITIS	16	SPONTANEOUS THROMBOSIS SUPERIOR VENA CAVA	3	SHRAPNEL IN THE HEART	1
ANEURYSMS	14	PERICARDITIS	3	MYEOTHEMA GRAVUS	1
DIAPHRAGMATIC HERNIA	13			SARCOMA OF PLEURA	1

Figure 1

Diseases encountered in the 1316 cases presented.

inasmuch as the patient gave a history of vague or gradual onset. This also establishes a portion of the reason for the relatively low incidence of fatigue and weakness as an initial symptom because of the gradual increasing character of this complaint and because, in many instances, the onset of fatigue had not been carefully traced back. With these considerations in mind, chart 8 is presented mainly to show the much greater preponderance of cough as a primary symptom in 62 per cent of the cases, while hemoptysis, as a first symptom, occurred in only 21 per cent of the cases.

In view of the common concept of the incidence of hemoptysis in tuberculosis, it would seem best to describe the tuberculosis series first. The cases of tuberculosis constitute 302 patients, in which group 36.5 per cent described bleeding. It should be emphasized that this was a group of patients in a sanatorium with disease of long standing. Each was individually questioned regarding hemoptysis, by one of us, so that even single instances of streaking were included in the

bleeding group. It is felt that this group of tuberculous patients constitutes a good general average type similar to those who might be seen in the office. Indeed, it is probable that the group included in this report would have a somewhat higher incidence of hemoptysis than that seen in the office of the primary diagnostic internist.

It is fitting, in view of the present concept of the significance of hemoptysis, that the next group should be the group with bronchiogenic neoplasms. There are 187 patients in this group of whom 53.6 per cent described the symptom of hemoptysis in varying degrees. In reviewing any large group of patients with bronchiogenic carcinoma, it is striking to note the difference of the time of onset of bleeding in relation to the duration of disease. There is a distinct tendency for this symptom to occur relatively late in the sequence of symptoms, being preceded by change in cough pattern, and by fatigue and by bizarre sensations in the thorax. It also must be stressed that lesions occurring within a major bronchus

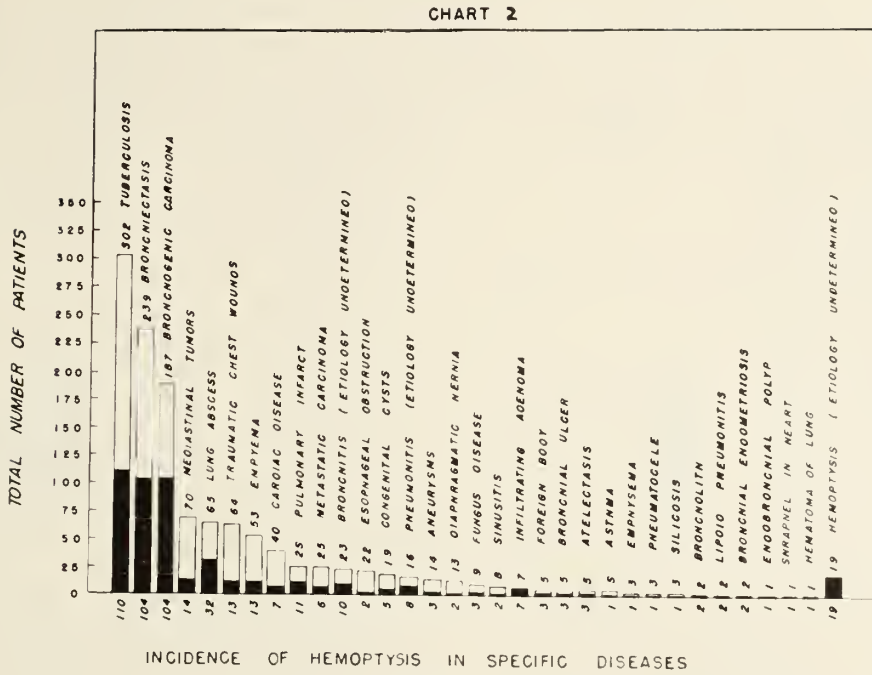


Figure 2  
Incidence of hemoptysis in specific diseases.

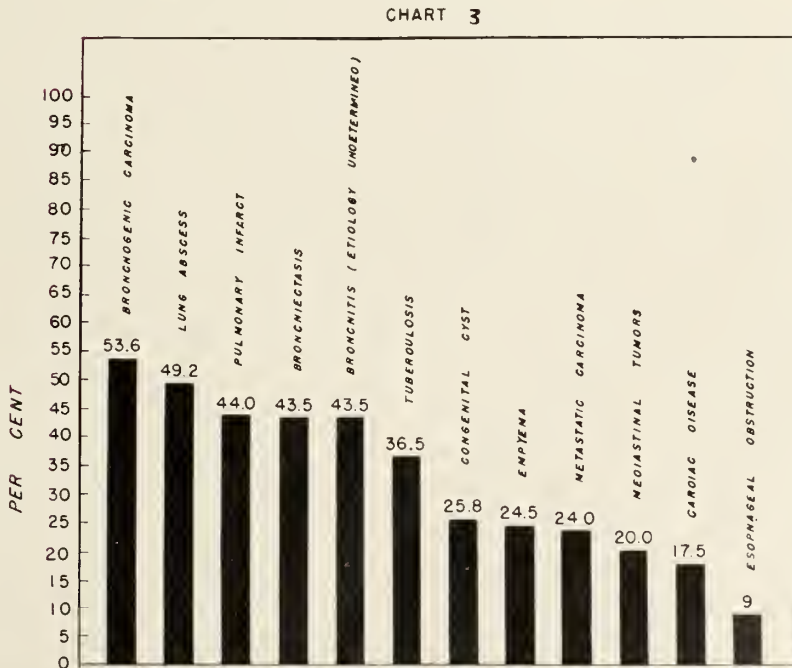


Figure 3  
Incidence of hemoptysis, by per cent, in specific diseases.

must be expected to present the symptom of hemoptysis at an earlier stage than lesions occurring in the periphery of the lung parenchyma and indeed, in many instances, must be expected to produce hemoptysis in

direct relation to the tendency for that area of the lung to become infected.

It is striking not only statistically, but also in our clinical observations, that one notes the high incidence of hemoptysis in

CHART 4

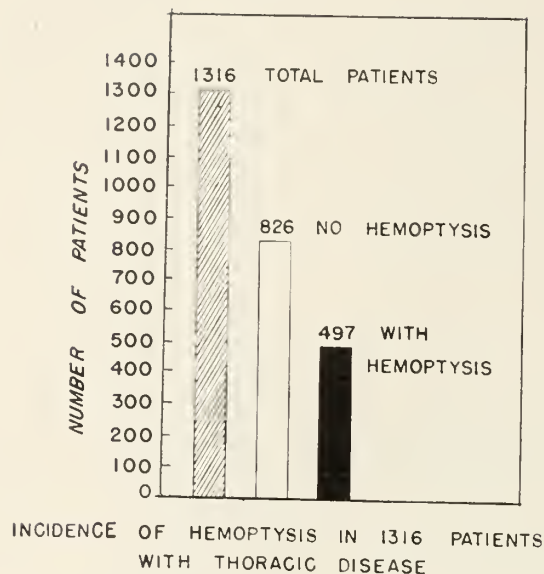


Figure 4  
Incidence of hemoptysis in 1316 patients with thoracic disease.

cases of pulmonary abscess, and also for the tendency of this bleeding to be more excessive in this type of lesion. Thus, in our group of 65 cases of lung abscess, 49.2 per cent described hemoptysis as a prominent symptom. In any case of chronic pulmonary suppuration, it is reasonable to expect bronchial ulceration and secondary bleeding. It is not surprising to see that 43.5 per cent of a group of 239 patients with bronchiectasis describe hemoptysis. It would be well to mention, however, the frequency in which this bleeding is not in large amounts and also the frequency with which such bleeding occurs only after bronchiectasis of long standing—five or ten years. This can be somewhat influenced, of course, by the onset of bronchiectasis during early childhood or adolescence, when the bronchial secretions may be swallowed, and thus hemoptysis disguised. It is also interesting to note that hemoptysis, as a symptom in bronchiectasis, is directly proportionate to the interest given by the historian, as so many patients with bronchiectasis pay very little attention to episodes of small pulmo-

CHART 5

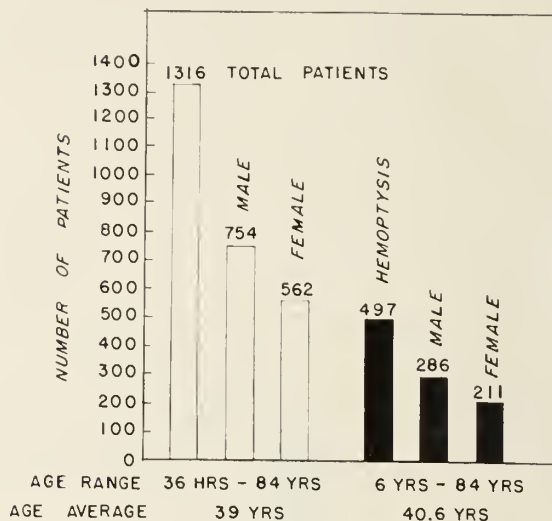


Figure 5  
Age range and sex incidence, with averages, for 1316 patients with hemoptysis.

nary bleeding. The hemoptysis seen in so-called "dry bronchiectasis" deserves mention as it may be the only symptom of the disease.

The occurrence of hemoptysis in association with empyema of the chronic type appears to be quite high when noted in the chart. Many of these patients described the bleeding occurring with their initial pneumonia, or with recurrence of same, and it has been attempted to describe the symptom more as that occurring in relation to their empyema rather than in relation to the primary pneumonia. A distinct number of these patients developed a postpneumonic bronchiectasis as well as empyema and bled, from all probability, from this source. Other patients undoubtedly bled from too rigid drainage tubes which may have been in malposition. Still another group includes hemoptysis occurring in empyemas with bronchopleural fistula.

The group of patients described as chronic non-specific bronchitis, was 23 in number and showed 10 patients, or 43.5 per cent, with bleeding. This, of course, does not constitute the occurrence of hemoptysis



CHART 6

LOCATION OF BLEEDING SITE		PATIENTS	
RT. UPPER LOBE -----	63	LT. UPPER LOBE -----	82
RT. MIDDLE LOBE -----	30	( LINGULA 20 )	
RT. LOWER LOBE -----	75	LT. LOWER LOBE -----	92
"RIGHT LUNG" -----	49	"LEFT LUNG" -----	38
TOTAL	<u>217</u>	TOTAL	<u>212</u>

Figure 6

Location of bleeding site in patients with hemoptysis.

in this disease. The majority of these patients were referred to the chest clinic because they were thought to have lesions other than chronic bronchitis, or because of the hemoptysis itself, and we were unable to define any other lesions as the actual cause. It would probably be best to classify each of the patients having bleeding in chronic bronchitis as patients with bronchial ulcer, but such ulcer was outside the scope of vision of the bronchoscope.

Again, the statistics for bleeding in relation to heart disease must be qualified, because in the majority of the cases the patients were referred to the chest clinic because of associated bronchial disease or, again, because of the hemoptysis itself. The statistics for the occurrence of bleeding in relation to foreign body show 43 per cent of such patients presenting hemoptysis. These were all instances of foreign body which may not have been suspected prior to referral to the chest clinic, or instances of foreign body of long duration. This lesion, in the acute stage, is more frequently seen by the otolaryngologist.

It is of importance to note the frequency of hemoptysis in metastatic carcinoma; that is, 5 patients in a group of 24, or 21 per cent. It is felt that little attention has previously been drawn to this occurrence and it has been our experience in the past few months to have encountered two instances of major endobronchial metastasis, secondary in one instance to primary sarcoma of bone,

CHART 7

## LOCATION OF DISEASE

		PATIENTS
RIGHT LUNG	-----	217
LEFT LUNG	-----	212
BILATERAL	-----	74
CARINA	-----	2
MEDIASTINUM	-----	14
TOTAL		519

Figure 7

Location of disease in patients with hemoptysis.

and in the other instance to transitional cell carcinoma of the testicle.

The occurrence of hemoptysis in relation of aortic aneurysms is not uncommon, just as we see hematemesis in association with certain aneurysms eroding into the gastrointestinal tract. In the thorax, the bleeding may not necessarily be due to actual communication between the aorta and the bronchial tree, but can be secondary to compression effect upon the bronchial tree. It happens that the 2 patients presenting hemoptysis in relation to aortic aneurysm were encountered in the recent work which we have been carrying out in the cellophane wrapping of such lesions, and in both instances there was a direct communication between the aorta and bronchus, which was remedied at the operating table at the time of aneurysmorrhaphy.

It is not felt that any specific discussion need be attached to the occurrence of hemoptysis in relation to congenital cyst inasmuch as the bleeding occurred in all instances of cysts with secondary infection. It is similarly felt that infection played a role

CHART 8

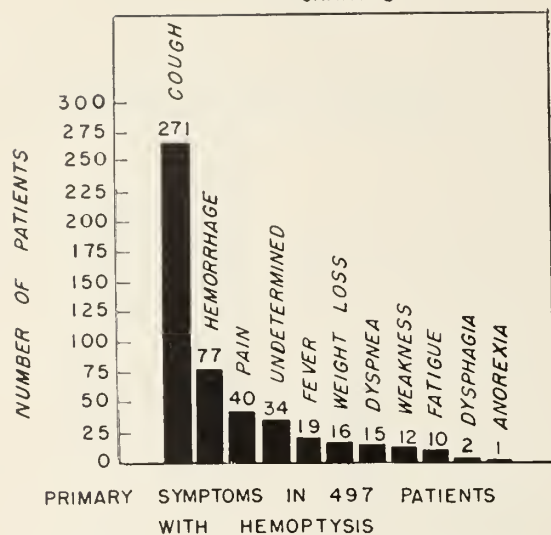


Figure 8

Primary symptoms in 497 patients with hemoptysis.

in the occurrence of hemoptysis secondary to atelectasis of undetermined origin. The series of idiopathic bronchial stenosis is too small to warrant any specific deductions, but the high incidence of hemoptysis is certainly striking. The occurrence of broncholith, as a responsible agent for hemoptysis, has long been recognized and indeed is frequently the reason for which the broncholith patient consults the physician.

The extremely high incidence of hemoptysis in relation to crushing injury of the chest, injury by fractured ribs, and injury by penetrating missiles, both gunshot wounds and penetrating instruments, is as one would suspect.

The importance of lipoid granuloma or lipoid pneumonitis, as a cause for bleeding, deserves some stress inasmuch as 1 of the patients had four almost fatal hemorrhages and underwent total pneumonectomy under supposition of carcinoma, but the specimen revealed a diffuse lipoid granulomatosis of the entire lung associated with bronchiectatic change. The second patient, having the same disease, had less bleeding, but this proved to be his only symptom and led to x-ray investigation.

CHART 9

PATIENTS	
FRANK HEMOPTYSIS-----	318
SCANT OR STREAKING-----	174
DEGREE UNDETERMINED-----	5
<b>TOTAL</b>	<b>497</b>

Figure 9

Classification of hemoptysis in 497 cases presenting this symptom.

The group of patients with either chest complaints or hemoptysis, and with a final diagnosis of "etiology undetermined," reminds us of our present limitations. However, it is felt that further periodic follow-up investigation is mandatory in this group. They may represent bronchial ulceration distal to the range of vision of the bronchoscope, small infarctions, pulmonary hypertension, blood dyscrasias in the stage of associated normal laboratory findings, and so forth. Although there may be such an entity as true "idiopathic pulmonary bleeding," it would be a healthier connotation to call it "pulmonary bleeding, etiologic factor undiagnosed due to our present investigative limitations."

In further consideration of patients with pulmonary disease associated with hemoptysis, we must mention that it does occur in such diseases as pulmonary emphysema which, in all probability, is associated with chronic pulmonary suppuration and fibrosis. It also occurs with pneumatoceles, which occur as a greater manifestation of the results of emphysema in this type of case. Its occurrence is also noted in the patients with bronchial asthma and we are, of course, familiar with the intrinsic type of bronchial asthma which is the type most commonly seen by the thoracic surgeon.

It should be emphasized that hemoptysis does not necessarily denote primary disease of the pulmonary tree. Such disease may be

## CHART 10

## ANALYTIC HISTORY OF THE SYMPTOM: HEMOPTYSIS

1. Antecedent or associated disease or complaints.
2. Relationship to cough, effort and other circumstances.
3. Amount and character of the bleeding.
4. Associated subjective chest and bronchial sensations.
5. Post-hemorrhagic chest sensations.
6. Post-hemorrhagic complications, if any.

Figure 10  
Analytic history of the symptom hemoptysis.

## CHART 11

## SUBJECTIVE LOCALIZATION OF PULMONARY BLEEDING

- A. Antecedent, associated or subsequent chest sensations.
  1. Burning
  2. Heaviness
  3. Bubbling
  4. Vague pain
  5. Bronchial roughness or scratching.
- B. Sensation of splinting.
  - a. Decreased aeration capacity on side involved.

Figure 11  
Subjective localization of pulmonary bleeding.

secondary from overflow spillage in an obstructed esophagus with secondary bronchiectasis and chronic pulmonary suppuration. The important thing which we would like to stress in this regard is the occurrence of hemoptysis in association with tumors of the mediastinal structures. Thus, we noted tumors of the mediastinum in 14 patients who presented the symptoms of bleeding from the pulmonary tree. Hemoptysis can occur in association with pulmonary hypertension which is so frequently a corollary of mitral stenosis, and thus we saw 7 patients, in a group of 40 cardiacs, presenting the symptom of pulmonary bleeding. It should be

further stressed that pulmonary bleeding is an unusual occurrence in cardiac disease of congenital origin, although it may be masked because of its occurrence in children. Pulmonary bleeding, however, is not unknown in children, as exemplified by hemoptysis in one patient who was 7 years of age. We also noted pulmonary bleeding in association with disturbances of the mediastinal vessels, such as aneurysm of the aorta and of the pulmonary artery. Apology must be made for the relative scarcity of the mycotic lesion of the bronchial tree as there are only 9 patients with such disease listed



## CHART 12

## INVESTIGATIVE REGIME

A. History.

B. Physical Findings.

C. X-ray.

a. PA (and lateral or oblique views, if indicated)

b. Lipiodol, if bronchoscopic findings insufficient.

D. Bronchoscopy.

E. Exploratory Thoracotomy.

Figure 12

Investigative regimen for patients showing the symptom hemoptysis.

in this large group and, of the 9 cases, 3 presented bleeding. Again, it must be emphasized that in all probability some of the group with chronic bronchitis were fungus disease without a positive culture or smear being obtained.

It is interesting to note that, of the diseases encountered in the thoracic cage, we see hemoptysis occurring in a fairly large group, but there is a distinct group in which hemoptysis is not seen in this study. This is demonstrated in chart 4.

It is felt to be of extreme importance that one should make a point of analyzing and studying the actual symptom of hemoptysis on obtaining the history of such from the patients. This is a very variable symptom and may be described as large amounts of fresh blood, or the bringing up of old blood clots, the fresh streaking of blood in the sputum, the bringing of small interspersed blood clots in the sputum, or a fine admixture of a small amount such as seen in acute pneumococcal infections, giving us the so-called "prune-juice" sputum. It was noted in our group that 67 per cent of the patients with hemoptysis gave a history of frank hemoptysis, which we considered to be a sputum consisting of pure blood in amounts

of 1 mouthful or more. Thirty-three per cent described a symptom of streaking or hemoptysis of a lesser degree. This figure, however, needs further breaking down to reveal the fact that frequently, prior to a major hemoptysis or a frank hemoptysis, the patient has had slight streaking over a long period of time.

One would like to lay considerable stress upon the importance of noting the character of a patient's hemoptysis associated with so-called acute lesions of the pulmonary tree. It has been a distressing experience to all people particularly interested in the subject of pulmonary neoplasm and of tuberculosis, to note that frequently the first cause of the patient's consulting a physician has been a so-called "classical pneumonia." When we analytically question these patients, we find that they have had atypical hemoptysis in association with this pneumonia, which should have led the attending physician to suspect that not all was quite right in the state of the pulmonary tree. Any patient having what is suspected to be acute lobar pneumonia or bronchial pneumonia, in whom the hemoptysis lasts for more than a 48-hour period, should be considered atypical. This is especially true if there was not

## CHART 13

## THERAPEUTIC REGIME IN PULMONARY HEMORRHAGE

1. Reassurance.
2. Bed rest in position of comfort.
3. Keep patient lying on side of origin of bleeding.
4. Sedation.
5. Sand bag to affected area.
6. Ice cap to affected area.
7. Pulse, respiration and blood pressure readings.
8. Coagulents.  
     Coagamen for first 24 to 48 hrs. until Vit. K takes effect.  
     Vitamin K.
9. Prophylactic chemotherapy.
10. Pneumothorax.
11. Surgical intervention.

Figure 13  
Therapeutic regimen for patients who have pulmonary hemorrhage.

the classic "prune-juice" type of sputum, and if the patient has a recurring production of small amounts of little blood clots, or streaking, over a period of several days. Furthermore, if this patient should show any so-called slow resolution of the pneumonic process, it is mandatory that he must have investigation to rule out obstructive lesions of the bronchial tree.

In questioning any patient in regard to the symptoms of hemoptysis, one must be particularly conscious of the possibility of the patient's own localization of the hemorrhage. Unfortunately, this does not occur in all cases. Frequently a patient who could not previously localize his hemorrhage, after being told to make sure on a subsequent occasion, will be able to point practically to the direct spot overlying the area of pulmonary ulceration. The symptoms which patients may associate in their chests with hemoptysis consist largely of a sensation of deep burning pain or discomfort, either prior to or subsequent to the hemorrhage. In hemoptysis of any degree, the patient may describe a bubbling sensation or an internal scratching sensation at the area of hemor-

rhage. Physician patients, in whom it has been our privilege to observe pulmonary hemorrhage, frequently describe the definite sensation of inability to breathe with the involved lung which they experience during the time of bleeding, and a splinting of the chest which they are able to control. Thus, our main symptom of localization consists of pre- and posthemorrhagic localized pain of a burning type, a sensation of bubbling or bronchial discomfort, or a sensation of upset in the breathing mechanism of the lung involved.

As physicians, we are all duly impressed with the importance of careful examination of the chest in the patient who is actively bleeding, which must be done with a minimum of disturbance to the patient, including the absence of percussion and only the gentle application of the stethoscope as necessary. It is extremely important in such cases, if we hear an area of distinct pulmonary infiltration or coarse ronchi localized to one side, that we must consider this a possible adjunct to our localization of the site of bleeding. This is, of course, open to considerable question because of the pos-

sibility of spill-over, especially into the right mainstem bronchus, and we will find considerable erroneous findings due to spill-over if we are not conscious of this potentiality.

The need of an x-ray examination as an aid to showing areas of possible sites of pulmonary bleeding, the use of bronchography and of the bronchoscope, do not need further mention. However, it is of importance to remember that in some cases it is particularly difficult to define the site of bleeding, and it may be necessary to bronchoscope the patient during the actual bleeding period in order to see the site of bleeding and outline the proper course of therapy.

In considering the modes of control of pulmonary hemorrhage, it is important to emphasize that bleeding may come from either of two vascular systems, varying greatly in their intrinsic pressure. Thus, we note that bleeding from a pulmonary vessel, unless it is of extremely large size, can be controlled in most cases by bed rest, local application of cold, splinting of the side of the chest by means of sandbag and, if necessary, by increasing the intrapleural pressure by means of a pneumothorax or pneumoperitoneum. However, in large vessels of the pulmonary tree, or bleeding associated with erosion of a bronchial artery, such methods of control may not be of avail and it will be necessary to use direct surgical intervention at an early stage. It is important to stress in connection with this that, if such surgical intervention is necessary, it should be done with the use of a bronchoscope in place while the anesthetic is given, keeping the bronchoscope just above the bifurcation of the trachea and thus allowing constant aspiration of the blood from the side involved until such bleeding has come under control.

Therefore, with this short preamble in relation to modes of control and of investigation, it appears fitting to make an outline

of the steps necessary in the investigation of patients presenting the symptoms of pulmonary bleeding. This is placed in outline form in chart 10. The foundation stone of the proper use of this outline is the consciousness of the importance of this symptom by the attending physician, and his alertness to aberration from the familiar mode of pulmonary bleeding associated with true acute pneumonia. The first element is an analytical history of the symptom of bleeding, the time of its occurrence, discussion of prodromal and subsequent chest sensations, and an evaluation by the physician as to the reliability of such symptoms. If a patient specifically states that bubbling or pain is associated in a definite area of the thoracic cavity in conjunction with bleeding, it is considered the strongest and most reliable kind of localization obtainable by any means other than the actual visualization of bleeding through the bronchoscope. It is also important to be conscious of the upper respiratory tract and its symptoms in investigating these patients because of the occurrence of bleeding from the nasal passages, and its aspiration and subsequent cough which, if not satisfactorily analyzed by the historian, may lead to considerable expensive and unnecessary investigation. Then, in order named, one should apply careful physical examination, x-ray investigation, including posteroanterior view and, if necessary, oblique or lateral films and subsequent lipiodal bronchography. The intelligent use of the bronchoscope in cases of hemoptysis is of extreme value in the investigation of these cases.

#### *Summary and Conclusions*

1. Thirteen hundred and sixteen patients brought to the attention of the thoracic surgeon have been analyzed in regard to the incidence and importance of the symptom hemoptysis. Stress has been laid upon the relative infrequency of hemoptysis in pa-



tients with tuberculosis in contrast to other diseases of the thorax.

2. An analysis of the instance of bleeding per disease has been noted and reported.

3. Emphasis was laid upon the importance of the alertness of the attending physician to any variation from the usual type of hemoptysis seen in acute pneumonia.

4. The role of the upper respiratory tract as a source of the coughing up of blood was mentioned.

5. A system of investigation of patients presenting the complaint of pulmonary bleeding was presented and emphasis was laid upon the value of subjective localization and of the bronchoscope in the investigation of patients in this group.

6. Brief mention of the therapy necessary when one is presented with acute hemoptysis has been made, but the primary contents of this paper deal with the clinical significance rather than with the treatment.

7. It is hoped that the study herein presented may help to promote a more concrete concept of the clinical importance of hemoptysis, and thus help to eradicate certain dangerous misconceptions of the importance and significance of this symptom. It is further hoped that this communication will help in some way to improve the clinical recognition of pulmonary neoplasm and other serious diseases of the thoracic cavity.

#### DISCUSSION OF PAPERS BY DRS. OSLER A. ABBOTT AND WILLIAM A. HOPKINS

DR. C. C. AVEN, (Atlanta): I shall not discuss Dr. Abbott's paper because I am not a surgeon and know nothing about aneurysms.

I think Dr. Hopkins' study of hemoptysis has brought us to the point where we should consider the evaluation of a chief complaint more than we sometimes do. A few years ago I wrote a paper on cough as the significant symptom in certain diseases, and looking into the literature I found 137 diseases listed as causes for cough. I also wrote a paper on pain in the chest and found listed in the literature 76 causes for this condition. Here they tell us there are more than 50 causes for hemoptysis.

I think that hemoptysis is the thing that brings the patient to the physician, and, as Dr. Hopkins emphasized, the presence of some antecedent disease is very

significant. These people will frequently hide their pain, their fever and their cough, because of ignorance or because of fear; but I think the spitting of blood almost always drives people to the doctor. A cough will not always do that. I think it is important to evaluate the symptom of hemoptysis, because I have found a number of cases in which no specific cause could be determined. In spite of all the diagnostic aids we do find still a few of these cases in which the cause cannot be determined. Therefore, I think to bring a subject of this kind to the attention of a group of general practitioners and some highly specialized men is very helpful. The spitting of blood, is to me, a very important symptom because the diseases which are listed among the five or six most common causes are serious and are progressive.

I do not know anything that produces more fear than spitting blood. I think in certain age groups we find cardiac disease as the cause of hemoptysis. Mitral stenosis, in my experience, has been not an uncommon cause for hemoptysis.

DR. ROBERT C. MAJOR (Augusta): This work of Dr. Abbott's is most impressive, and I congratulate him heartily. I must confess to having maintained an attitude of defeatism about syphilitic aneurysms of major thoracic vessels. I have been curious about what would be accomplished since I read Dr. Poppe's report in 1946. I must confess, too, to a lack of imagination about the nonsyphilitic aneurysms, which Dr. Abbott has attacked. My defeatism was based on what seemed to me to be overwhelming fundamental difficulties associated with the inherent pathologic changes of syphilitic damage to the walls of the great vessels and with the physiologic demands upon those walls. I am happy to have reason to believe now that I have been too pessimistic. As to the nonsyphilitic group of cases, certainly both from the diagnostic standpoint and from the standpoint of enthusiasm about attacking them surgically, we have been delinquent.

The paper which Dr. Hopkins read is, I believe, unique. I know of no similar paper upon a large group of patients with a variety of diseases in the chest. The chief purpose of this paper, it would seem, is to emphasize that the patient who has hemoptysis should be considered not necessarily tuberculous and that the hemoptysis constitutes an urgent demand for thorough diagnostic study.

One question occurred to me, the answer to which may be obvious in the table shown. I can recall a few patients in whom there was no sign of actual heart failure and in whom the presence of hemoptysis seemed to rest upon a marked degree of arterial hypertension. I wonder what the authors' experience has been in regard to the relation of hypertension to hemoptysis. We have all been too vague in our ideas about hemoptysis, and I think this last paper is a very valuable contribution.

DR. OSLER A. ABBOTT (Closing): I should like to thank Dr. Major for his discussion and to mention the use of this method in patent ductus arteriosus. At the present time, in our group of 23 operative cases, two of the ducts have been transected while the remainder have had the use of multiple ligatures with an overlying layer of polythene cellophane. In one patient we were quite certain that the ductus had not remained completely closed and the closure appeared to be completed by the overlying cellophane three months later. We have not seen any complications from the use of cellophane in this disease to date.

I should like to take this occasion of discussing Dr. Major's question relative to our paper upon hemoptysis. We have seen a few patients in this group whose bleeding has been upon the basis of pulmonary apoplexy. As Dr. Hopkins mentioned, there has been a limitation in regard to the type of patients included in this series in that they have been under the diagnostic regimen of thoracic surgeons and therefore do not include any

patients who are seen by the internist and found to have pulmonary hemorrhage due to cardiac origin. However, we always try to keep this disease in mind in the study of any patients with hemoptysis.

## NEOSTIGMINE FOR BLACK WIDOW SPIDER BITE

### *Report of Case*

JOHN E. BECK, M.D.

*Dacula*

There is apparently still some question as to the most effective method of treating black widow spider bite (arachnidism). In December 1945, Bell and Boone reported the successful use of neostigmine in one case. There were some comments on this report, mostly adverse; but no other reports on the use of neostigmine have been forthcoming. Recommended drugs include opiates, calcium salts, sodium thiosulfate, and magnesium sulfate. Theoretically, curare would be an ideal therapeutic agent for this condition, but I have been unable to find in the literature reference to its actual use.

The following report is of a case successfully treated in the office and the home with neostigmine:

### REPORT OF CASE

J.F. is a 44-year-old white man in good general health except for occasional trouble with lumbago. He is 73 inches in height and weighs 196 pounds. On the morning of July 9, 1947, at 5:30, he was bitten on the penis by an insect while he was in the privy. The insect was not identified, but he states there are many spider webs in the privy. The bite was moderately painful for a few minutes and caused no trouble thereafter. By 7:00 A.M. he was having some pain in the low abdomen and hips. By 8:30 A.M. abdominal and leg pains were severe and he reported off from work. The abdominal pain was constant, but shifted from place to place. He was unable to sit or lie down quietly, but felt it necessary to move around for partial relief.

He was first seen at 10:30 A.M., 5 hours after the bite. He was restless; appeared anxious and was in obvious pain. The abdomen was completely rigid, but not tender to pressure. There was a macular area 0.5 x 0.5 cm. on the ventral surface of the penis where he had been bitten. Complete examination was not done at this time, but a diagnosis of arachnidism was made on the basis of the above findings.

Two cubic centimeters of neostigmine methylsulfate 1:2000 were given at once. There was moderate relief of pain in 30 minutes. At 11:15 A.M. an additional 1 cc. was given. He was completely free of pain by noon.

He was allowed to go home with instructions to take neostigmine bromide 15 mg. by mouth every 4 hours.

A codeine preparation was given, to be used if needed. The following day there was moderate aching in the legs for which he took a total of 3 doses of codeine. At no time did he have a recurrence of abdominal pain. Three days after the bite he still felt entirely well and planned to go to work the following day. When questioned specifically if he thought hospitalization would have helped in any way, he replied in the negative.

### *Summary*

1. A patient with black widow spider bite was successfully treated with neostigmine in the office and at home, and this report is added to the literature on the subject.

2. This experience confirms the report of Bell and Boone in December 1945.

3. Regardless of other methods used, neostigmine is a valuable adjunct in the treatment of arachnidism.

## NUMBER OF FARMS IN SOUTHEAST DECREASE SHARPLY, CENSUS SHOWS

Did you know that in 1944—

There were 205,252 less farms in the Southeast than there were ten years previously—

Despite this decrease in farms, a billion dollars more were taken in by farmers in 1944 than in 1939—

Generally speaking, there was a perceptible decline in the production of cotton, although that crop remained "king"—

In spite of the decrease in farms, the land in farms aggregated 800,000 acres above 1935—

The value of all farm land and buildings in this region was more than \$1,700,000,000 over a decade ago—

The value of implements and machinery on southeastern farms nearly doubled, as did the value of livestock on farms—

Crops failures in 1944 were nearly half those of 1935?

These and other phases of farm activity are revealed in the 1945 United States Census of Agriculture taken by the Bureau of the Census. United States Department of Commerce, copies of which are available, in buckram binding, on a State-by-State and country-as-a-whole basis at all offices of the Department of Commerce.

## STREPTOMYCIN PRODUCTION INCREASED

Streptomycin production during July, 1947 increased 104 per cent over the previous month's output, the Office of Domestic Commerce, Department of Commerce, reported recently. The July total of 1,000,753 grams is virtually equivalent to all supplies made available during the entire year 1946, ODC said.

The substantial increase in production, plus the trend of foreign as well as domestic consumption and the desirability of maintaining incentives to continued expansion, led the Department of Commerce to establish an export quota of 300,000 grams for August, ODC said. Authorized export quota for July was 125,000 grams.

*The JOURNAL would like to record the scientific work of Georgia doctors. It earnestly requests, therefore, that each physician in the State who publishes a contribution in some other medical periodical submit an abstract of the article for these columns.*



# SOUTHEASTERN REGIONAL CONFERENCE TO DISCUSS HEALTH PROBLEMS, ACADEMY OF MEDICINE, ATLANTA OCTOBER 8, 1947

SOUTHEASTERN REGIONAL CONFERENCE  
of the  
COUNCIL ON MEDICAL SERVICE  
AMERICAN MEDICAL ASSOCIATION  
October 8, 1947  
ACADEMY OF MEDICINE BUILDING  
ATLANTA, GEORGIA

## PARTICIPANTS

In addition to the speakers named in this program, members of the following organizations will participate in this conference:

MEDICAL ASSOCIATION OF THE STATE OF ALABAMA,  
MEDICAL ASSOCIATION OF GEORGIA,  
FLORIDA MEDICAL ASSOCIATION,  
MISSISSIPPI STATE MEDICAL ASSOCIATION,  
MEDICAL SOCIETY OF THE STATE OF NORTH CAROLINA,  
SOUTH CAROLINA MEDICAL ASSOCIATION,  
TENNESSEE STATE MEDICAL ASSOCIATION,  
MEDICAL SOCIETY OF VIRGINIA  
PROGRAM  
WEDNESDAY, OCTOBER 8, 1947

Academy of Medicine, 875 West Peachtree Street, N. E., Atlanta, Georgia. Chairman, Walter B. Martin, M.D., member, Council on Medical Service, American Medical Association, Norfolk, Virginia.

## MORNING SESSION

- 8:30- 9:30 Registration.
- 9:30- 9:40 Call to Order—Walter B. Martin, M.D., Norfolk, Virginia.
- 9:40- 9:50 Welcome—Steve P. Kenyon, M.D., President, Medical Association of Georgia, Dawson, Georgia.
- 9:50-10:20 Services the A. M. A. Can Render Medical Societies—Harrison H. Shoulders, M.D., Past-President and member, Council on Medical Service, A. M. A., Nashville, Tennessee.
- 10:20-10:25 Our Health Problems in the South—Chas. W. Roberts, M.D. (deceased), member\* Board of Trustees, American Medical Association, Atlanta, Georgia.  
\*In tribute to Doctor Roberts, his name has been left on the program. Allen H. Bunce, M.D., Atlanta, Georgia, will pay tribute to Doctor Roberts' long and outstanding work in medical organizational activities.
- 10:25-10:45 Rural Health Problems of the South—Ransom E. Aldrich, Chairman, Medical Care Committee, American Farm Bureau Federation, Jackson, Mississippi.
- 10:45-11:05 American Medicine's Rural Health Program—F. S. Crockett, M.D., Chairman, Committee on Rural Medical Service, A. M. A., Lafayette, Indiana.  
Special Discussants:  
J. Paul Jones, M.D., member, Committee on Rural Medical Service, A. M. A., Camden, Alabama.  
Henry B. Mulholland, M.D., member, Committee on Rural Medical Service, A. M. A., Charlottesville, Virginia.
- 11:05-11:15 Rest Period.
- 11:15-11:35 Responsibility of the Educator in our Health Problems—Dr. Josiah Crudup, President, Brenau College, Gainesville, Ga.
- 11:35-11:55 Prepayment Medical Care Plans—Development in the Southern States—B. H. Min-

chew, M.D., Chairman, Prepayment Medical Plans Committee, Medical Association of Georgia, Waycross, Georgia.  
The National Picture—George W. Cooley, Assistant Secretary, Council on Medical Service, A. M. A., Chicago, Illinois.

- 11:55-12:30 Open Forum—"How Shall We Provide Medical Care for All the People?"
- 1:00 P.M. Luncheon (dutch)—Atlanta Biltmore Hotel—Edgar H. Greene, M.D., presiding, President-elect, Medical Association of Georgia, Atlanta, Georgia.  
Introduction of Principal Speaker—Steve P. Kenyon, M.D., President, Medical Association of Georgia, Dawson, Georgia.  
Principal Speaker—Honorable M. E. Thompson, Governor of Georgia.

## AFTERNOON SESSION

- 2:30- 3:00 How North Carolina is Meeting Its Health Problems—Paul F. Whitaker, M.D., Kinston, North Carolina.
- 3:00- 3:20 Industrial Health Problems in the South—E. J. Gaynor, III, Vice-President and General Manager, Brunswick Pulp and Paper Company, Brunswick, Georgia.
- 3:20- 3:40 Practical Solution for Health Problems by State Medical Societies—James R. Miller, M.D., President, Connecticut State Medical Society, member, Board of Trustees, American Medical Association, Hartford, Connecticut.
- 3:40- 4:00 Program of the Council on Medical Service—Walter B. Martin, M.D., member, Council on Medical Service, American Medical Association, Norfolk, Virginia.  
Thomas A. Hendricks, Secretary, Council on Medical Service, American Medical Association, Chicago, Illinois.

## CONFERENCE EXECUTIVE

Edgar H. Greene, M.D., 478 Peachtree Street, N. E., Atlanta, is to act as the arrangements head for the committee. All correspondence in regard to arrangements is to be cleared through him.

For room accommodations write to the following hotels: Atlanta Biltmore (one block from the Academy of Medicine), Henry Grady, Piedmont, Georgian Terrace, Robert Fulton, Ansley, Atlanta.

## RURAL HEALTH COMMITTEE

The Rural Health Committee of these states will hold a dinner meeting of their own the evening of October 8.

## LOCAL ARRANGEMENTS COMMITTEE

Steve P. Kenyon, M.D., President of the Medical Association of Georgia, Dawson, Georgia.  
Edgar H. Greene, M.D., President-elect of the Medical Association of Georgia, Atlanta, Georgia.  
Allen H. Bunce, M.D., Delegate to the A. M. A. from Georgia, Atlanta, Georgia.  
B. H. Minchew, M.D., General Chairman, Committee on Prepayment Medical Plans of the Medical Association of Georgia, Waycross, Georgia.  
Charles W. Roberts, M.D., member, Board of Trustees, A. M. A., Atlanta, Georgia.  
Edgar D. Shanks, M.D., Secretary-Treasurer of the Medical Association of Georgia, Atlanta, Georgia.  
O. H. Weaver, M.D., Delegate to the A. M. A. from Georgia, Macon, Georgia.  
Spencer A. Kirkland, M.D., Chairman, Committee on Public Policy and Legislation of the Medical Association of Georgia, Atlanta, Georgia.



**THE JOURNAL**

OF THE

MEDICAL ASSOCIATION OF GEORGIA

478 Peachtree Street, N. E., Atlanta, Ga.

SEPTEMBER, 1947

CONFERENCE FOR THE DISCUSSION  
OF MEDICAL CARE

A conference for the discussion of medical care, sponsored by the Council on Medical Service of the American Medical Association, will be held at the Academy of Medicine, Atlanta, October 8. In addition to the speakers appearing on the program, some of whom are national health leaders, representatives of the medical associations of the following southeastern states will participate in the one-day program: Alabama, Georgia, Florida, Mississippi, North Carolina, South Carolina, Tennessee and Virginia.

Long a problem of real magnitude, so-called rural health will be the subject to receive most attention at this conference. While rural health problems are not confined to the South, Georgia offers an excellent example of the need for solving such problems. Only two-thirds of this State, with its 159 counties, is adequately covered by public health supervision. In former years the main cause for this situation was inadequate funds for public health activities, but now the picture has changed: the State and the Federal Government have joined to furnish the necessary money, but full coverage cannot be attained till trained personnel can be secured to do the work. Finally, public health is largely a problem of education and this education must be extended to include all of the people, particularly county officials, school officials, pupils in all the schools, civic organizations and church groups.

Actually the public health picture of one Georgia county was so unfavorable, one of its physicians considered moving to another county where the people were more healthy. From purely an economic standpoint, such a move would appear to be unwise. This physician, however, stated that so many people were sick all the time, most of whom had malarial infection, their economic status had reached a point where they no longer could pay the doctor anything for his services, though they needed medical services almost 24 hours each day, and that he himself had worked beyond both physical and economic endurance.

No doubt such a picture as here portrayed obtains in numerous counties of the United States, and it will be the purpose of the conference to point out remedial measures for improved medical services for all of the people. Such measures must include increased public health activities to cover all counties in the country, increased hospital and clinic facilities, increased interest in the hazards of industry and the development of programs for prepayment medical care. The latter programs have been utilized in some sections of the country with benefit to the subscribers, since they have been operated as non-profit organizations and in most instances as community projects.

Elsewhere in this JOURNAL will be found the complete program for this conference. Needless to say, each member of the Association is invited to attend the conference and participate in discussion of these important problems.

UNPRECEDENTED LOW MORTALITY  
FORECAST FOR 1947

Barring unforeseen developments in the second half of the year, it now appears that 1947 will set a new low record for mortality, says the *Statistical Bulletin* of the Metro-

politan Life Insurance Company for July 1947.

"The death rate for the first six months of the current year, 7.6 per 1,000 policyholders, is 3.8 per cent below that for the like period of last year, and is identical with the previous low registered in the first half of 1942 (exclusive of deaths from enemy action). When allowance is made for the increase in the average age of those insured in the past five years, the death rate so far in 1947 actually establishes a new minimum.

"An improvement in mortality is evident at virtually every age period, whether the figures for this year are compared with those for 1946 or 1945. The declines are particularly marked among men at the military ages, who in years immediately prior to 1947 were adversely affected by the relatively high mortality of men in service, even after deaths from enemy action are excluded from the reckoning. . . . The general reduction in mortality among the industrial policyholders has brought the death rate down to well under one per 1,000 at ages 5 to 14 among white males and at 5 to 24 years among white females; among girls 10 to 14 years of age, the rate is down to the remarkably low level of 0.4 per 1,000.

"One of the factors contributing to the favorable record so far this year is the low mortality from influenza and pneumonia. This has been achieved despite an unseasonable rise in the death rate from these diseases in the spring. Fortunately, this outbreak was rather short-lived. By June, the death rate from influenza and pneumonia was at a new low, and the figure for the six months as a whole was 13 per cent below the previous minimum for this period of the year established in 1945.

"Tuberculosis, too, is making an excellent showing in 1947. Each month, except May, registered an appreciably lower death rate from the disease than did the corresponding month of 1946. The rate for the Jan-

uary-June period, 35.5 per 100,000, is 8 per cent below the previous minimum recorded two years ago, about 20 per cent lower than the rate five years ago, and 35 per cent under the rate ten years ago.

"New minimum death rates have also been established so far in 1947 for syphilis, appendicitis, and the principal communicable diseases of childhood as a group. The decline in mortality from syphilis has amounted to almost 30 per cent in the past decade. In the same period the reduction in mortality from appendicitis has been more than 70 per cent. It is almost incredible, but true, that the death rates from measles, scarlet fever, whooping cough, and diphtheria, together add up to less than 1.5 per 100,000 policyholders. Equally remarkable is the fact that in four out of the six months under review, there has not been a single death from scarlet fever in this insurance experience which includes several million children.

"The death rate from the diseases of the puerperal state for the first half of the year is 3.2 per 100,000 as compared with 3.1 for the like months of last year. This negligible rise must be construed in the light of the fact that the birth rate in the same period has increased by about 40 per cent. There is no question, as shown by these figures, but that the hazards of pregnancy and childbirth among these policyholders are lower now than at any time in the past.

"The diseases characteristic of later life likewise have a favorable record this year. The mortality from the cardiovascular-renal diseases, which contribute heavily to the total mortality, has declined 1.2 per cent as compared with last year. At the same time, diabetes shows a drop of 6 per cent. Cancer alone registers an increased mortality on the basis of rates not adjusted for the aging of the insured group.

"The three main categories into which deaths from external causes are classified,

all show lower rates this year than last. For suicides the decline is 7 per cent, for homicides 12 per cent, and for accidents 13 per cent. Contributing to the reduction in the mortality from accidents is the decline of 7 per cent in the fatalities from motor vehicle accidents. Another factor has been the decline in the number of deaths from accidents among men in military service. It is pertinent to observe that the general death rate from accidents has decreased despite an increase in the number of lives lost in catastrophes, that is, in accidents which take five or more lives. Thus, according to records compiled from various sources, there were about 1,340 deaths from catastrophes in the general population of the United States during the first six months of the current year, or about 2 1/3 times the number in the like period of 1946. There were, in fact, about one-third more deaths from catastrophes in the January-June period of 1947 than in the entire year of 1946."

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#### AVERAGE LENGTH OF LIFE SINCE 1847 INCREASED FROM 40 TO 67

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#### *A. M. A. President Says American Medicine 'Is Blazing New Trails'—Working To Improve Health Of All*

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"In 1847 the average length of life of our people was about 40 years; in 1947, this has increased to almost 67 years. Such an accomplishment may be regarded as one of the major attainments of modern science," according to Edward L. Bortz, M.D., president of the American Medical Association.

Writing in the current issue of *Hygeia*, health magazine of the American Medical Association, Dr. Bortz points out that "medical science in the last 25 years has discovered remarkably effective weapons for the control of infectious diseases. Important new information with reference to nutrition, disorders of the glands, the control of diabetes and obesity, and our knowledge of various nervous and mental disorders have made the doctor a more effective public servant than in any previous time in the history of humanity.

"We are indeed a more healthy people today. We are living longer. The mature and productive years are increased in number, and the ravages

of old age may be delayed if the public will cooperate with the medical profession in utilizing available information for the control of the diseases which are the common lot of all people."

Continuing, the article states in part:

"Probably no other group has a keener sense of social responsibility than has the medical profession. . . . More and more attention is given to the preventive aspects of disease. This includes an appreciation of nutritional requirements of the body, plus a number of other important necessities, such as rest, recreation and healthy mental outlook. These factors represent some of the principal interests of the modern doctor.

"Organized medicine has always been a strenuous exponent of the highest type of medical service for all people, regardless of financial status. The unsolved questions of an economic nature are being approached with the same sense of scientific objectivity, free from emotional heat, as science utilizes in its laboratories and clinics.

"To facilitate international exchange of health information, the control of disease, and medical research, a world medical association is now in process of formation. American doctors are deeply interested in this worthy project. Recently two distinguished members of the Board of Trustees of the American Medical Association flew to London to attend an organizational meeting with representatives of other lands.

"As international bonds are strengthened in the fields of science, medicine, the arts, and culture, a better understanding will be brought about for people of the various nations of the world. As leaders in the medical realm communicate with one another across national boundaries, they bring to their own people the benefits of research and investigations in the fields of medical science which will improve the health of various populations. When folks understand each other and contribute to the welfare and happiness of members of the family of nations, the irritations and misunderstanding that cause so much unhappiness should be more susceptible of compromise.

"Doctors are vitally interested in the broader problems of national security and international stability. The American Medical Association is vigorously engaged in promoting the dissemination of information that will improve the health of the people of all nations.

"American medicine is blazing new trails; it is moving in forward directions to a day of better understanding and finer health for people near and far. The leaders of medicine in the United States, supported by a superb staff of highly qualified colleagues and experts in the various special fields of administration, health education, medical economics, legislation and research, are throwing all their energy into the search for more adequate control of the disorders that destroy health and shorten life.



"The American people can rest assured that the doctors of the nation will continue to find new methods for the control of disease, improved measures for the public health, and an enlarged scope for the enjoyment of human existence. To these high aims the American Medical Association dedicates its interests and support."

#### NEW FACTS REVEALED IN STUDY OF PULMONARY EMBOLISM PATIENTS

A 10-year study made by four Boston physicians reveals that contrary to general opinion pulmonary embolism—plugging of the lung artery or one of its branches by a blood clot—occurs more frequently among medical patients than among surgical patients.

The physicians—Jacques Carlotti, Irad B. Hardy, Jr., Robert R. Linton, and Paul D. White, from the medical and surgical departments, Massachusetts General Hospital—point out that during the 10-year period, 1936 to 1945, "although there were actually more than twice as many surgical cases (98,642) as medical (45,523), (at the Massachusetts General Hospital) more than half (53.4 per cent) of all the patients with pulmonary embolism were medical (273 as compared to 233 surgical)."

The study, appearing in the August 23 issue of *The Journal of the American Medical Association*, was divided into two five-year periods: group A, 122 cases of pulmonary embolism occurring during 1936 to 1940, and group B, 151 cases from 1941 to 1945. Male patients predominated, state the physicians, making up 56.5 per cent of the first group and 60.3 per cent of the second. The great majority of the patients were over 40 years of age (83.8 per cent), and over half were from 50 to 70 years years of age. Also, the majority of patients had heart disease (59 per cent in group A and 70.8 per cent in group B).

Since the blood clots have been found to originate in the leg, the physicians advocate cutting the femoral vein, the chief vein of the thigh, to prevent the clot from being carried by the blood stream to the lungs and possibly causing death.

This operation was performed on 60 patients in group B of whom 17 died. In the 91 patients of group B who were not operated on plus the 122 patients of group A, a total of 213 cases, there were 108 deaths. The mortality rate for this operated group is therefore 28.3 per cent and that for nonoperated cases 50.7 per cent.

"We consider that this method of treatment has been of definite significance in reducing the death rate from pulmonary embolism in medical patients," state the physicians.

#### ON COURAGE

*"He that loses wealth loses much;  
but he that loses courage loses all."*

—CERVANTES

J. Edgar Hoover, director of the FBI, says: "Cervantes' words affirm that courage is a price-less ingredient of character. The will to do, the tenacity to overcome all obstacles and finish the course, the strength to cling to inexorable ideals, are rooted in courage. It is the outward manifestation of our spiritual development.

"I have never seen a courageous criminal. True, some exhibit bravado behind a gun or in the protection of overwhelming numbers, but that is not real courage. I am speaking of the kind which is vital to the preservation and perpetuation of a free nation: the mental and moral courage which drives us to seek truth.

"It is the kind which enables us to stand by our convictions, to uphold right for the sake of right. It was this courage which built America. This is the high courage we must develop as pioneers of the Atomic Age. In Cervantes' words lie both a challenge and a warning."

#### GOOD FOOD AND GOOD HEALTH

*"All that is valuable in human society depends upon the opportunity for development according to the individual."*

—ALBERT EINSTEIN

In human development, the most important thing is health. Our bodies can be repaired, but never restored, for organic disease is never reversible. While the maintenance of robust health begins at conception, it is never too late to protect and keep what we do have. Good health depends upon good nutrition; good nutrition depends upon the quality of the food which we eat; the quality of our food in turn depends primarily upon the quality of the soil in which it is grown.

The death of a mother in childbirth is a terrible thing, for it means the destruction of a family as well. We in the United States are proud of the steady decline in both our maternal and infant morbidity and mortality. We shall wipe them out entirely as we take a lesson from our herdsmen who have known for a long time that healthy calves come from well-nourished mothers on a proper diet. Nausea, pre-eclampsia, and the dreaded toxic convulsions of pregnancy are an expression of a deficient diet on the part of the expectant mother as are prematurity, hemorrhages, and the congenital defects of the newborn. We are now preparing to spend millions of dollars to take better care of more of these tragedies when they could be practically done away with, if we would provide our expectant mothers with an optimal diet.

The United States is the healthiest nation

in the world largely because it has the best sanitation. The quality and quantity of our food supply has been the next great determining factor in producing our improvement in health, and then comes better housing. There is still much room for improvement in all of these fields. Improvement in health can only come with improvements in the standards of living and it is therefore primarily an economic problem and not one for the medical profession, dedicated as it is to helping the sick when in fact there should be no sick.

On the other hand, medicine has contributed its share to improvements in infant feeding and in the immunization against communicable diseases. We physicians have the means to abolish completely diphtheria, whooping cough, smallpox, lockjaw and tuberculosis any time that the people will become aroused enough to cooperate with their health authorities. The physiologic chemists and the students of nutrition have taught us physicians how to modify cow's milk to approximate in a general way mothers' milk, so that our new formulae with the modern refrigerator to keep them clean and free from disease-producing germs is a distinct improvement over that of a generation ago. Too many of our people think that such milk is as good as mother's milk. This is not true. To get the perfect food for babies, however, mothers must be given a milk-producing diet, and they and their babies kept in a contented mood. Here again we can learn from the dairyman.

At this moment there is waiting to be done all the work that our dentists can do in the next ten years and it won't wait. Only one decayed tooth in ten will receive attention. Prevention must be the answer to the problem of adequate dental care for our people. We can do away with the need for dentistry in the next generation if we would give our nation the optimal diet we know how to select. If we will give our pregnant woman the very best food, it will insure that her baby's teeth will be set squarely and will be equally spaced in the little jaw. Thus we do away with the need for the orthodontist. What is more important, there will be built into the baby's teeth a quality of construction that will make them superior. If the youngster gets a proper diet in his day then these teeth will not decay and so we do away with need for the personal dentist. Furthermore, such teeth on an adequate diet will last as long as their owner, even if it be 120 years, and so goes begging the work of the exodontist. So too at the same time would disappear all those systemic diseases that go with infected teeth.

Tooth decay and tuberculosis, the major diseases of adolescence and young adult life, can both be prevented through proper eating of the foods that are best for us. We have made greater headway with tuberculosis than with our dental needs. In recent years we have wiped

out 80 per cent of our death rate from tuberculosis and could wipe out the disease entirely if the people only knew and appreciated what our health officers have been trying to tell them. Nevertheless, I am certain that it is ignorance and not apathy that prevents them from conquering tuberculosis completely.

Science has given us physicians a whole battery of new chemicals and antibiotics with which to combat the infectious diseases so common among us grown-ups. We have been shown also by our students of resistance to disease that, for most infections, our resistance is largely determined by the amount and quality of protein in our daily food supply. Our resistance therefore is an expression of the standard of living—a product of our pastures.

We are grateful for these new miracle drugs, but we must quit abusing them by their indiscriminate use in small doses for every little cold or other minor complaint. Such use may make us fatally allergic to them or make germs entirely resistant to them.

Our bodies wear out before their time because we use over-refined foods that do not carry with them the natural oxidative catalysts so necessary to burn our food completely into carbon dioxide (a gas) and water. The incomplete combustion corrodes and destroys our blood vessels causing some one of our vital organs to wear out long before the rest and so we die at 55 when we should live to be 120. If we could eat the best possible foods all our lives and eat them in temperate amounts, we would not need to fear old age. Our brains would be alert to the end and we would be able to make worth-while contributions to society and would not be confined to mental hospitals, spend our days in a wheel chair or be dependent upon our relatives. The days of old age would be the best days of our lives.

We need health officers who will teach, not treat and waste time enforcing. We need health officers and physicians and dentists and nutritionists who look healthy and who are healthy to teach by example as well as by precept. Finally, we need health centers in every community. These will not be the new granite buildings at the county seat built under the Hill-Burton Act with government funds. They will be built by money furnished by prosperous farmers who have found out how to restore fertility to their soil and how to keep it there at small cost. For the real Health Centers of the future will be the American farms themselves. Here you and I shall get the foods that will give us health and keep our loved ones free from disease.

People want to eat better. They are anxious to upgrade their diet. With the American people able to buy and eat anywhere near the amount of milk, dairy products and eggs that they want, there will never be any grain surplus and



no need for a foreign market. They are ready to eat all that we can produce. Such a program, too, would call for a return to pasture of all of those lands that should have always been kept covered.

The Wagner-Murray-Dingell program for the redistribution of pills and bandages to the tune of 8-10 billions of the taxpayers money seems silly when we can get robust strength and energy by consuming the foods that we should have. Our production and marketing program should plan to accomplish this instead of slipping back into the prewar food pattern. In this way, we shall stabilize our agriculture at a profitable level. When such stabilization occurs, we shall avoid depressions and gain real security based on production and not a pseudo-security based on taxes.

In 1947, let us do all we can to teach the citizens of the United States to think clearly about the fundamental character of sound nutrition based upon a sound agriculture and forsake the exorbitantly expensive, and hopeless governmental schemes for better care of more sickness.

JONATHAN FORMAN, Editor,  
Ohio State Medical Journal

#### NEW TREATMENT FOR LUMBAGO, TORTICOLLIS OR OTHER FORMS OF ACUTE INTRA- MUSCULAR FIBROSITIS

In the year 1929, quite by accident, the value of amyl nitrite inhalation in the treatment of lumbago was noted by the late Dr. Chester Christie of Cleveland, Ohio, and I, then an intern at Lakeside Hospital. An elderly man, a victim of angina pectoris, entered the outpatient clinic complaining of severe, disabling lumbago. During the course of the examination he developed acute anginal pain, and amyl nitrite was administered for relief. The precordial pain was relieved within a few minutes, and to the amazement of all concerned he suddenly realized that he had no lumbago either. He was able to stand, walk, and bend his spine in all directions with no residual from what had been a few minutes previously a most disabling malady.

This case led to considerable speculation and experimentation during the ensuing year in the treatment of acute intramuscular fibrositis. We found that symptomatic recovery could be obtained in approximately 60 per cent of cases of lumbago and torticollis within a few minutes' time, provided they were treated within six hours after onset, and that all such cases treated were improved, at least temporarily. The method was so simple and the results were so dramatic that we corresponded for some years afterward, regarding results obtained; but to the best of our knowledge nothing was published on the subject prior to the death of Dr. Christie. The

whereabouts of our early data is at present unknown.

Intramuscular fibrositis is classified by Slocomb as primary or secondary. "Primary intramuscular fibrositis is unaccompanied by, and independent of, any other recognized disease. Secondary intramuscular fibrositis is incidental or secondary to some known general infection or dominant primary condition such as rheumatic fever, gout, gonorrhea, rheumatoid arthritis, trauma, etc." The treatment of the secondary form is naturally that indicated for the underlying disease, and will not be considered in this discussion.

Primary fibrositis is an inflammatory reaction in the fibrous tissues of the body, and since fibrous tissue exists everywhere the possibilities for anatomic distribution are legion: but the pain, tenderness, and muscle stiffness (jelling phenomenon) which characterize it are most frequently encountered in the lumbar muscles (lumbago); muscles and tendons of the scalp and neck (cephalalgia or indurative headache); sternocleidomastoid muscles (torticollis or wry neck); gluteal muscles, and the trapezius muscle.

During the past seventeen years intermittent use of amyl nitrite in these conditions has yielded results of sufficient merit to warrant submission of the method for clinical trial and evaluation by other interested clinicians.

The procedure for treatment is as follows: The patient is placed in the prone position, and explanation given as to the subjective effect of the drug, i.e., the peculiar odor, flushing of the face, rapid pulse, and transient headache. A pearl of amyl nitrite is broken in gauze, and the patient inhales just enough of the drug to produce flushing and rapid pulse. He is permitted to rest until these symptoms subside, and then is asked to sit up and move his head or back, or the muscle group involved. In approximately 60 per cent of cases seen within six hours after onset, the results are complete, immediate, symptomatic relief, with no recurrence. All cases are at least partially relieved, though a few will have recurrence of symptoms after a lapse of several hours when a second use of amyl nitrite will usually relieve the recurrence completely. The percentage of relief is greater in those treated early, and least in those treated 24 to 36 hours after onset of symptoms.

Patients treated after 24 hours should have physiotherapy in addition, and in a small series of cases it is believed their recovery is shortened by two or three days over those treated by physiotherapy alone.

The mechanism of recovery by the use of amyl nitrite inhalation is not known, but it may possibly be due to the rapid vasodilation or the direct relaxing effect on the tone of muscles involved. The relaxing effect of amyl nitrite on smooth muscle such as the gall-bladder, bronchi and pylorus is well established, and many pharmacologists believe a similar



effect is produced in lesser degree on the tone of striped muscle. It may all sum up to a rapid production of the same effects that are more slowly produced by application of local heat to the involved part. Whatever the mechanism, the results are most dramatic in a high percentage of cases.

### Summary

1. A new use for an old remedy is submitted in amyl nitrite inhalation in the treatment of lumbago, torticollis and other forms of acute intramuscular fibrositis.

2. The method is simple and harmless in the hands of physicians, consisting of inhalation of amyl nitrite until flushing of the face and rapid pulse occur. Results are often dramatic, and are best when cases are treated within six hours after onset of the symptoms.

3. Sufficient success has been attained by its use to warrant submission of the method for further trial and evaluation by interested clinicians.

ALLEN COLE, M. D.

## AMERICAN MEDICAL ASSOCIATION

### NEWS BRIEFS

So far in 1947 the Council on Medical Service of the American Medical Association has mailed more than 27,000 packets of literature on sickness insurance to high school debating students.

\* \* \*

The Bureau of Legal Medicine and Legislation of the American Medical Association has been active for years in promoting the enactment of laws to protect the public from the misuse of narcotics and other dangerous drugs, such as barbiturates or sleeping pills as they are frequently called.

\* \* \*

The Council on Pharmacy and Chemistry of the American Medical Association, to improve the proper use of drugs and to advance medical education, makes available several books on drugs that are used by interns, practicing physicians and pharmacists.

\* \* \*

The Council on Medical Education and Hospitals of the American Medical Association maintains a list of 79 approved four year medical schools and eight approved schools of the basic medical sciences in the United States and Canada in which more than 23,000 students are enrolled.

### RESEARCH FELLOWSHIPS—THE AMERICAN COLLEGE OF PHYSICIANS

The American College of Physicians announces that a limited number of fellowships in medicine will be available from July 11, 1948 - June 30, 1949. These fellowships are designed to provide an opportunity for research training either in the basic medical sciences or in the application of these sciences to clinical investigation. They are for the benefit of physicians who are in the early stages of their preparation for a teaching and investigative career in internal medicine. Assurance must be provided that the applicant will be acceptable in the laboratory or clinic of his choice and that he will be provided with the facilities necessary for the proper pursuit of his work. The stipend will be from \$2,200 to \$3,000.

Application forms will be supplied on request to The American College of Physicians, 4200 Pine Street, Philadelphia 4, Pa., and must be submitted in duplicate not later than November 1, 1947. Announcement of the awards will be made as promptly as is possible.

## SURGEONS TO MEET

The second annual meeting of the Georgia chapter of the American College of Surgeons will be held at the Sheraton-Bon Air Hotel, Augusta, October 31, 1947.

The following program will be presented:

- 9:00 A.M. Registration.
  - 10:00 A.M. "Pre-Invasive Cancers," Dr. Edgar R. Lund.
  - 10:30 A.M. "Recent Advances in Anesthesiology," Dr. Perry P. Volpito.
  - 11:00 A.M. "Streptomycin Therapy in Tuberculosis," Dr. Rufus Payne and Dr. John Crenshaw.
  - 11:30 A.M. "Conditions Influencing Bone Age," Dr. Robert Greenblatt and Dr. Peter B. Wright.
  - 12:00 Noon "Subdiaphragmatic Abscess," Dr. Stephen W. Brown.
  - 12:30 P.M. Luncheon.
  - 1:30 P.M. "Hematocrit Estimation and Blood Volume," Dr. W. F. Hamilton.
  - 2:00 P.M. "Transthoracic Approach to Lesions of the Lower Esophagus and Upper Abdomen," Dr. Robert Major and Dr. John H. Sherman.
  - 2:30 P.M. "Multiple Myeloma," Dr. V. P. Sydenstricker.
  - 3:00 P.M. "A Proposed Plan for Improvement of Medical Education and Medical Care in Georgia," Dr. G. Lombard Kelly.
  - 3:30 P.M. Round Table Discussion of the Various Papers, Dr. Dallas B. Phemister, Moderator.
  - 4:00 P.M. Dr. M. T. McEachern, Chicago.
  - 7:00 P.M. Dinner.
- Address by Dr. Dallas B. Phemister, Chicago, guest of honor, title to be announced.

## FIFTH DISTRICT MEDICAL SOCIETY TO MEET

The Fifth District Medical Society announces its fall meeting at the Academy of Medicine, Atlanta, October 10, 1947. Speakers will be: Dr. Roy R. Kracke, dean of the Medical College of Alabama, whose subject will be "Recent Advances in Hematology," and Dr. Tom D. Spies, professor-elect of medicine, Northwestern University, whose subject will be "Malnutrition in the Practice of Medicine". Supper will be served at 6:30 p.m. Election of officers.

## POST-GRADUATE ASSEMBLY

The post-graduate assembly committee of the Fulton County Medical Society and the Fifth District Medical Society announces the following faculty of its session, Jan. 28, 29, 30, 1948:

- Dr. Tom D. Spies, professor-elect of medicine, Northwestern University.
- Dr. Philip S. Hench, Mayo Clinic.
- Dr. Lester Dragstedt, professor of surgery, University of Chicago.
- Dr. A. C. Ivey, professor of medicine, Northwestern University.
- Dr. Chester S. Keefer, professor of medicine, Boston University.
- Dr. Ralph Elman, Washington University, St. Louis.
- Dr. Ralph M. Tovell, Hartford, Conn.
- Dr. E. V. Hamm, professor of pathology, University of Ohio.
- Dr. Helen Taussig, Johns Hopkins University.
- Dr. Julius Lempert, New York City.
- Dr. Merrill C. Sosman, clinical professor reontology, Harvard Medical School.

Note carefully the program for the Southeastern Health Conference, page 373 of this JOURNAL. Plan to attend this conference October 8.

# WOMAN'S AUXILIARY TO THE MEDICAL ASSOCIATION OF GEORGIA

## AUXILIARY NEWS

*Excerpts from minutes of the Auxiliary board meeting  
and the Advisory Committee of the Medical  
Association of Georgia*

Mrs. W. G. Elliott, Cuthbert, president of the Woman's Auxiliary to the Medical Association of Georgia, reported her theme as *Unity and Growth*, with the following objectives:

1. Active participation in all endeavors to health activities under the guidance of the Medical Association of Georgia.
2. A vital and aggressive public relations program.
3. Careful study of all legislation concerning the medical profession.
4. A vivid awareness of public health possibilities and problems as related to the medical profession and the community.

5. An increased Auxiliary membership.

### *Suggestions for Carrying Out These Objectives*

1. Inform ourselves as to the history of the medical profession, its present status and future responsibilities.
2. Work with existing groups to interpret to the public the ideas and the standards upon which the medical profession is based.

Set up efficient and dependable publicity machinery.

Enlarge sphere of influence by real service to our respective communities.

Study trends, analyze the public mind in regard to their understanding of the grave responsibility that the medical profession feels for the health of the country; in turn, interpret this public opinion to the medical profession.

Impart to the people at large a confidence in the medical profession to do the job.

3. Make definite plans to study and understand all legislation concerning the medical profession.

Organize study groups for the purpose of becoming familiar with the various types of prepayment medical care plans.

4. Seek specific areas of public health in our community and offer guidance and help.

Expand health education and assist in the nursing recruiting program.

Arrange health programs with local women's groups.

5. Enlist the interest of every doctor's wife in Auxiliary work, and encourage every member to assume health leadership.

Use our particular talents, exploit every aptitude and growth.

Seek and accept a position of active responsibility in the program of our local

group.

Feel a social responsibility in keeping with that of our doctor husbands and do something about it.

Comprehend the professional attitude of our husbands and be a source of encouragement to them.

Endeavor at every opportunity to put ideas into practice.

Subscribe and make use of the Bulletin.

In the general discussion which followed it was brought out that a doctor's wife has a responsible position in her community. She is expected to know what to do in an emergency, and should know. She should be able to answer questions concerning the medical profession and health education intelligently and correctly.

The members of the Advisory Committee present Dr. J. A. Redfearn, chairman; Dr. Steve Kenyon, president of the Medical Association of Georgia, and Dr. Bruce Schaefer approved the objectives.

Mrs. Sam Anderson, Milledgeville, president-elect, and all the chairmen of committees presented their plans which were approved.

A motion was carried to support Mrs. Bruce Schaefer, chairman of the 1948 Citizenship Institute.

Dr. Kenyon announced a regional conference to be held October 8, 1947, in Atlanta and invited the Auxiliary members to attend.

The conference for instruction was presided over by Mrs. W. G. Elliott, who introduced the officers, chairmen and past presidents. Mrs. Eustace A. Allen, President of the Woman's Auxiliary to the American Medical Association, commended the conference and expressed pleasure that the Georgia Auxiliary was the first state Auxiliary to inaugurate this kind of a conference. After plans and recommendations of the state officers and chairmen were presented an open forum was held. Chairmen reports were discussed, questions were asked and answered pertaining to the objectives and plans for the year and many difficulties ironed out.

\* \* \*

While the doctors of Toccoa were hosts to a northeast Georgia district medical meeting March 19, 1947, their wives were busy reorganizing their own medical auxiliary. Mrs. Bruce Schaefer, president, and Mrs. W. G. Elliott, president-elect, officiated at the reorganization which was held at the Hotel Albermarle. Mrs. Schaefer gave an interesting resume of the year's work along with an outline of the urgent need for doctors' wives to organize auxiliaries.

The Toccoans present, besides Mrs. Schaefer, were Mrs. C. L. Avers, Mrs. E. F. Chaffin, Mrs. W. H. Good, Mrs. Arthur Singer, Mrs. Charles Henry, and Mrs. R. E. Shiflet.

The group decided to hold their auxiliary



meetings once a month and concluded with the election of the following officers: Mrs. C. L. Ayers, president; Mrs. W. H. Good, vice-president; and Mrs. J. Q. Waters, secretary-treasurer. Mrs. Ayers named Mrs. Charles Henry as publicity chairman.

These ladies next assembled with the doctors' wives whose husbands were attending the district meeting. A general exchange of auxiliary activities and problems was shared by the entire group. Mrs. Elliott presided in her role as president-elect of the State Auxiliary.

By 6 o'clock the doctors had finished their scientific assemblage; they then joined their wives for a delicious steak dinner in the dining room of the Hotel Albemarle.

MRS. JEFF L. RICHARDSON.

#### NEWS ITEMS

Dr. George Bachmann, Atlanta, announces his association with the Lowance Clinic, suite 315 Doctors Building, 478 Peachtree Street, N. E., Atlanta. Internal medicine, allergy, cardiology, pathology and roentgenology. Drs. Mason I. Lowance, Eugenia C. Jones, Edgar M. Dunstan, Warren B. Matthews, William E. Carskadon and George Bachmann.

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The Bibb County Medical Society held its monthly meeting at Ridley Hall, Macon, August 5. Program: "Slipped Upper Femoral Epiphysis," by Dr. J. I. Hall. Dr. A. M. Phillips, secretary.

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Dr. George C. Canble, Jr., formerly of Clarksdale, announces the opening of his offices in the Howell-Quillian Clinic, Cartersville, for general medical practice.

\* \* \*

Dr. C. C. Chappell, Jr., formerly of Cordele, recently released from the U. S. Navy, announces the opening of offices for the practice of medicine at Lumpkin.

\* \* \*

Dr. Howard Coe and Dr. L. C. Mitchell, Brunswick, are taking special courses at the Mayo Clinic, Rochester, Minn., for several weeks.

\* \* \*

Dr. Abe J. Davis, Augusta, Richmond County commissioner of health, recently accepted appointment as a member of the medical advisory committee, Georgia State Chapter of the National Foundation for Infantile Paralysis.

\* \* \*

Dr. Jacob Pone Eberhardt, a native of Elberton, has returned to Elberton to practice medicine and has his offices in the Elberton Drug Company Building, Elberton.

\* \* \*

Dr. Paul Nelson Fleming, formerly of Hagerstown and Williamsport, Md., announces the opening of his offices at 14½ West Taylor Street, Savannah. Practice limited to diseases of the eye, ear, nose and throat.

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Dr. J. R. Garner, Atlanta, chief surgeon for the Atlanta and West Point Railroad Company, the Western Railway of Alabama and the Georgia Railroad, recently retired after more than 27 years' service. His son, Dr. John P. Garner, Atlanta, will succeed him as chief surgeon of the three railroads. Dr. Garner, interested in the subjects of fatigue and posture, has accepted the position as vice president of the Posture Research Institute, Inc., which has offices in Elkhart, Ind., Chicago and New York, with his offices in the Medical Arts Building, Atlanta.

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Dr. Maves Gober, Marietta, announces the opening of his offices at 304 Cherokee Street, Marietta, to

resume his medical practice limited to diagnosis and surgery. Dr. Bruce Burleigh will be associated with Dr. Gober and will also maintain his office at 515 Clay Street, Marietta, and keep appointments at 304 Cherokee Street as well; practice limited to internal medicine.

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The American College of Allergists announces a fall graduate instructional course in allergy under the auspices of the College of Medicine University of Cincinnati, Cincinnati, Ohio, November 3-8, 1947. Hotel headquarters, Netherland Plaza. The faculty consists of more than forty outstanding physicians and scientists from prominent medical centers and colleges in the United States and Canada. Each course presents a complete, up-to-the-minute study of the field of allergy. The program covers fundamentals, such as physiology, immunology, psychosomatics, and pathology; special allergies, such as mold, food, bacterial, and physical; pharmacology of drugs used in the treatment of allergy; preparation of allergenic extracts; technics of skin testing; and the determination of allergic history. Adequate consideration will be given to specific diseases such as bronchial asthma, allergic bronchitis, bronchiectasis, Loeffler's syndrome, Meniere's disease, hay fever, and aural, ocular, vascular, joint and neuro allergy. There will also be comprehensive symposiums on dermatologic and pediatric allergy. The fee for the course is \$100.00. There will be special bus service between the hotel and the medical college. Early registration is urged. Make all reservations for the course and hotel accommodations directly with the secretary, Dr. Fred W. Wittich, 423 LaSalle Medical Building, Minneapolis, Minn., stating the exact time of your arrival and departure and whether you want a single room or wish to share one with another registrant. Dr. Hal M. Davison, Atlanta, president, American College of Allergists.

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Dr. George F. Hagood, Marietta physician and a graduate of Reinhardt College, Waleska, in the class of 1899, was recently approved as a trustee of the college by action of the North Georgia Conference of the Methodist Church.

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Dr. Jack T. Harper, Hartwell, recently opened his office and clinic in the Page Building, which has been remodeled and refinished with a number of rooms and every convenience installed for patients. Dr. Harper, son of Dr. and Mrs. G. T. Harper, will give special attention to obstetrics and general medicine.

\* \* \*

The Fulton County Medical Society held its monthly dinner meeting at the Academy of Medicine, Atlanta, September 4. Scientific program: Case report, "Amoebic Abscess of the Liver." Dr. Max Michael, Jr.; Clinical talk, "Early Ambulation in Obstetrics." Dr. Regina Gabler; Paper of the Evening, "Leprosy. Clinical and Pictorial Discussion," Dr. Herbert S. Alden.

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The Sanitary Engineering School of the City-County Health Department's Field Training Center, Columbus, was the subject of the month-long study by Dr. John M. Henderson, professor of sanitary science at Columbia University, New York City. The study will serve as a basis for possible establishment of similar sanitary schools throughout the country, Captain C. M. Sprangler, of the training center, announced. Accompanying Dr. Henderson for a brief inspection of the school's facilities were El'is S. Tisdale, officer in charge of the training division; Richard Hammerstrom, executive officer of the training division; Dr. W. W. Frye, head of the department of preventive medicine and public health, Vanderbilt University; and Roy J. Merton, associate professor of the same department at Vanderbilt. The sanitary engineering school is one of the first of its kind in the entire nation.

\* \* \*

Dr. John Morgan Kellum, Thomaston, has received notice that he has been made a senior fellow in the



Southeastern Surgical Congress. The certificate of fellowship will be presented to Dr. Kellum at the convocation exercises of the assembly to be held in Hollywood, Florida, April 5-8, 1948. Dr. Kellum is engaged in the practice of general surgery in Thomaston and is the surgeon for the B. F. Goodrich Rubber Company.

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Dr. G. H. Lang, Savannah, recently received notification that he has been named a senior fellow in the Southeastern Surgical Congress, considered by medical men to be a distinctive honor. The notification was sent by Dr. B. T. Beasley, Atlanta, secretary-treasurer of the congress, who informed him he will be inducted into the senior fellowship at convocation exercises of the congress in Hollywood, Florida, next April.

\* \* \*

Dr. Jack H. Levy, former Augustan, has opened offices at the Doctors Building, Augusta, for the practice of diagnostic radiology. Dr. Levy recently held a clinical professorship in radiology at the Yale University School of Medicine, New Haven, Conn., and the position of chief of radiology at Newington Hospital. He is a diplomate of the American Board of Radiology and a member of the American College of Radiology.

\* \* \*

Dr. James B. Martin, Edison, was recently appointed medical examiner for Calhoun County for the Veterans' Administration and will make physical examinations for veterans seeking pensions, insurance, etc., and will also treat service-connected cases. Dr. Martin is also coroner for Calhoun County.

\* \* \*

Dr. Floyd W. Morgan, formerly house physician at the City Hospital, Brunswick, announces the opening of his offices at Douglasville for the practice of medicine.

\* \* \*

Dr. John R. Palmer, a native of Waynesboro, announces the opening of his offices at 1020 Greene Street, Augusta, for the general practice of medicine, with emphasis on obstetrics and gynecology.

\* \* \*

Dr. H. Wilder Smith, Swainsboro, recently attended the 27th annual session of the Southern Pediatric Seminar, Saluda, N. C., where he took a post-graduate course in the methods of diagnosis, prevention and treatment of diseases of children.

\* \* \*

Dr. I. W. Teng, Hunan Province, China, recently visited Muscogee County to observe work of the City-County Health Department. Dr. J. A. Thrash, director announced. Dr. Teng was especially interested in studying the BCG anti-tuberculosis program undertaken in the Columbus area, and was assigned to the Georgia Department of Public Health by the Rockefeller Foundation to observe communicable disease control work.

\* \* \*

The Tenth District Medical Society met at the Washington-Wilkes County Club, Washington, August 19. Dr. C. E. Wills, Washington, president of the Wilkes County Medical Society welcomed the members, and Dr. D. N. Thompson, Elberton, president of the Tenth District Medical Society, responded. "Convulsive Disorder" was the subject discussed by Dr. W. A. Risteen, Augusta. "Some Problems of Organized Medicine," by Dr. Steve P. Kenyon, Dawson, president of the Medical Association of Georgia. The following officers were elected: President, Dr. C. E. Wills, Washington; Vice-President, Dr. P. B. Stewart, Monroe, and Secretary, Dr. M. C. Adair, Washington. The Clarke County Medical Society will serve as host for the Tenth District Medical Society meeting in February, 1948. Thirty-five physicians in the Tenth District registered at the Washington meeting.

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The University of Georgia School of Medicine, Augusta, plans for two additional departments of study. Dr. G. Lombard Kelly, dean of the school recently announced. A department of dermatology and syphilology will be instituted in the near future. Dr. Malcolm

Bazemore, now on duty with the U. S. Army, will head the department. Included in the plans is a department of plastic surgery, but a faculty member to head the division will be named later. Dr. Jose F. Nonidez of Cornell University School of Medicine, New York, will fill the place formerly held by the late Dr. Joseph Krafka, Jr., professor of microscopic anatomy.

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The U. S. Naval Hospital, Dublin, recently announced fourteen new physicians have reported for duty. They are Lieutenants (jg) C. W. Tribiano, Wiley N. Price, Jr., William R. Griffin, Joseph W. Hooper, Jr., Stuart E. Sims, Harry A. Sinclair, George K. Tweddle, Jr., Albert F. Ullman, Clyde F. Newman, Jr., Holmes B. Springs, Jr., John Fittipaldi, Robert R. Rascoe, Jr., Paul H. Pennypacker and Ross St. Clair Rumbaugh, all of the medical corps, USN.

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The Ware County Medical Society recently met at the Hotel Ware, Waycross. Members were guests of Dr. D. B. Terry at dinner at Hotel Ware. Covers were laid for the host, Dr. T. J. Ferrell, Dr. William Hendry, Dr. Cathryn McMillan Hendry, Dr. J. R. Gay, Dr. M. M. McCollum, Dr. Leo Smith, Dr. W. L. Pomeroy, Dr. Ansley Seaman, Dr. Lewis Oden, Jr., Dr. W. F. Reavis, Dr. B. R. Russell, Dr. Floyd Davis, Dr. E. R. Stamps, Dr. Jack Cannon, Dr. B. H. Minchew and Dr. B. E. Collins. The society named Dr. W. L. Pomeroy, Dr. E. R. Stamps, Dr. Ansley Seaman, of Waycross; Dr. D. B. Terry, Homerville; Dr. R. R. McCollum, Kingsland; Dr. William Hendry, Blackshear, and Dr. William Sharp, Alma, as a committee to make arrangements for the installation and maintenance of a blood bank at the Ware County Hospital. The purpose of such a bank is to keep blood on refrigeration available for transfusions. Dr. Charles O. Parker, Jr., Waycross, was elected to associate membership. The society voted to hold at some future date a forum on penicillin and streptomycin, to which all members of the Eighth District Medical Society will be invited.

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The University of Georgia School of Medicine, Augusta, sponsored an "Obstetric Seminar" at the University Hospital, September 1-6. Dr. Richard Torpin, Augusta, chairman and professor of the department of obstetrics and gynecology, was in charge with twenty physicians taking part on the program, most of them members of the Medical Association of Georgia.

#### NEW BOOKS

INTERNAL MEDICINE IN GENERAL PRACTICE: by Robert Pratt McCombs, B.S., M.D., F.A.C.P., assistant professor of medicine and director of postgraduate teaching, Tufts College Medical School; senior attending physician, The Joseph H. Pratt Diagnostic Hospital; diplomate of the American Board of Internal Medicine. Second edition. 741 pages with 122 illustrations. Philadelphia and London: W. B. Saunders Company, 1947. Price \$8.00.

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THE AMERICAN ILLUSTRATED MEDICAL DICTIONARY (21st edition). A complete dictionary of the terms used in medicine, surgery, dentistry, pharmacy, chemistry, nursing, veterinary science, biology, medical biography, etc.; with pronunciation, derivation and definition. By W. A. Newman Dorland, A.M., M.D., F.A.C.S., Lieut. Col., M.R.C., U. S. Army; member committee on Nomenclature and Classification of Diseases of the A.M.A.; editor of "American Pocket Medical Dictionary." 21st edition. 1660 pages; with 880 illustrations, including 233 portraits. With the collaboration of E. C. L. Miller, M.D., Medical College of Virginia. Philadelphia and London: W. B. Saunders Company, 1947. Price—\$8.00 without thumb index; \$8.50 with the thumb index.

Note Health Conference Program, page 373 this JOURNAL.

## OBITUARY

DR. FRANKLIN CARLISLE BIVINGS, aged 68, retired prominent Atlanta physician, died August 7, 1947. He was born in Dalton and graduated from Dalton High School and the Alabama Polytechnic Institute in Auburn, Ala. While a student at Auburn he played fullback on the famous Plainsmen team which played Georgia in Atlanta when Tich Tichenor was an Auburn star. He represented the Westinghouse Electric Company in Atlanta before he made his decision to study medicine at the University of Illinois College of Medicine, Chicago, where he graduated in 1916. He served his internship at Vancouver General Hospital in British Columbia. He was a lieutenant in the medical corps of the Army during World War I. Until his retirement 10 years ago, Dr. Bivings practiced medicine with his brother, Dr. W. Troy Bivings, Atlanta. He was a member of Phi Chi Medical Fraternity, the Sigma Alpha Epsilon Fraternity and the Fulton County Medical Society. Dr. Bivings is survived by his brother, Dr. W. Troy Bivings, Atlanta; two sisters, Mrs. S. A. Marshall, Rome, and Mrs. R. H. Timmons, White Plains, N. Y. Funeral services and burial were held at the graveside in Dalton Cemetery, Dalton.

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DR. JAMES HENRY BROOKS, aged 79, retired physician and surgeon who had been practicing in Decatur since 1921, died August 22, 1947. Dr. Brooks was a native of Gwinnett County and graduated from the Atlanta College of Physicians and Surgeons, now Emory University School of Medicine, in 1899. He practiced medicine in Conyers for more than 20 years before moving to Decatur. Surviving are two sons, B. T. Brooks, Decatur, J. B. Brooks, Atlanta; three daughters, Miss May Brooks, Mrs. E. J. Cogburn, Jr., and Miss Marie Lee Brooks, all of Decatur. Funeral services were held at Trinity Chapel, with the Rev. Harvey C. Holland officiating. Burial was in Decatur Cemetery, Decatur.

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DR. AUGUSTUS HARRIS FRYE, aged 54, beloved Griffin physician and surgeon, died of a heart attack in Belfast, Maine, August 6, 1947. Dr. Frye was born in Alabama, the son of the late Sam B. Frye and Mrs. Irene Thornton Frye. He was graduated by the public schools of Griffin and later graduated from the Southern College of Pharmacy. He then entered Emory University School of Medicine, Atlanta, and graduated in 1914. This was followed by a year of graduate work in the New York Polyclinic Medical School and Hospital, New York City. Shortly after he began the practice of medicine in Griffin war broke out with Germany and he entered the U. S. Army Medical Corps, serving overseas for more than 18 months, being discharged with the rank of captain. He was a member of the Spalding County Medical Society, the Medical Association of Georgia, the American College of Surgeons and the American Medical Association. He also was a member of the First Baptist Church, the American Legion, the VFW, Meridian Sun Lodge Masons, T. W. Mitchell Camp W. O. W., and Warren Lodge Odd Fellows. Survivors are his wife, Mrs. Charlotte Fogg Frye; two sons, Dr. A. H. Frye, Jr., and Warren Frye; a daughter, Miss Barbara Frye, all of Griffin, and a sister, Mrs. W. H. Saunders, Macon. Funeral services were held at the First Baptist Church, with the Rev. Hugh M. Lindsey, pastor, officiating. Burial was in Oak Hill Cemetery, Griffin.

\* \* \*

DR. WORD REDWINE, aged 76, practicing physician of more than 50 years, died at his home in Madras, Coweta County, August 4, 1947. Dr. Redwine graduated from the old Atlanta Medical College, now Emory University School of Medicine, Atlanta, in 1895. He practiced medicine in Bartow County for 26 years prior to 1920, with offices at Cassville. He was a member of the Baptist Church, and was a Mason. He is survived by his wife, Mrs. Dawson Campbell Red-

wine; three daughters, Mrs. J. W. Fowler, Jr., and Mrs. Harry L. Brown, both of East Point; and Mrs. H. C. Murphy, Morrow; four sons, Lloyd Redwine, San Diego, Calif.; Earl Redwine, Phoenix, Ariz.; Parks Redwine, Birmingham, Ala.; and Word Redwine, Jr., Raleigh, N. C. Funeral services were conducted by the Rev. J. E. Hannah. Burial was in Redwine Cemetery, Coweta County.

\* \* \*

DR. WILLIAM EARLY WHITTLE, aged 71, beloved Iron City physician, died July 22, 1947. Dr. Whittle graduated from the Georgia College of Eclectic Medicine and Surgery, Atlanta, in 1911. He was a member of Salem Lodge No. 267 and the Iron City Methodist Church. He was active in the civic and community life about him, making friends and earning the justified respect of his fellow citizens. He had practiced medicine in Iron City for 35 years. He was a member of the Decatur-Seminole Medical Society and the Medical Association of Georgia. His wife, Mrs. Anah Lucretia Whittle, survives together with three children, Mrs. Joe Drake, Tallahassee, Fla.; Mrs. Rupert Sheffield, Donalsonville, and Seborn Roy Whittle, Donalsonville; also five sisters and four brothers. Funeral services were held from the Iron City Methodist Church, with the following ministers officiating: Rev. Corbitt, pastor of the Iron City Methodist Church; Rev. Whitt Aiken, pastor of the First Baptist Church, Donalsonville, and Rev. Vinson, former pastor of Iron City Methodist Church. Burial was in Corinth Cemetery, Iron City.

## ANNOUNCEMENT REGARDING NURSES

The University of Georgia and the Georgia Association of Industrial Nurses cordially invite your attention to a new educational program being offered by the University System.

The advantages of the nurse in industry have been established as a new and vital branch in medicine and with the rapid growth of industry in Georgia and other states, the nurses *must* be prepared by advanced educational knowledge.

The required courses were planned by active industrial nurses, members of the University Faculty, and Miss F. Ruth Kahl, representing the Industrial Hygiene Division of The United States Public Health Service. These courses were chosen to offer maximum benefits to all those in industry and those planning to go into industry. This program leading to a degree in industrial nursing will be offered both at The University of Georgia, Athens and The University Center in Atlanta.

Further inquiries may be addressed to: Miss Mary Frances Ward, assistant professor, University of Georgia School of Nursing Education or Mrs. Adelaide L. Stewart, R. N., president of The Georgia Association of Industrial Nurses.

## A SEMINAR ON THE PROGRESS OF PHYSICAL MEDICINE

The New York Polyclinic Medical School and Hospital, the pioneer postgraduate medical institution in the United States, announces plans for a seminar on the progress of physical medicine, on December 1, 2 and 3, 1947.

Members of the faculty and invited guests will give talks and demonstrations on the progress in methods, clinical application, and in related fields, especially medical rehabilitation. The seminar will be conducted by Dr. Richard Kovacs, professor of physical medicine, and his staff. The preliminary program can be obtained by writing to the New York Polyclinic Medical School and Hospital, 345 West 50th Street, New York 19, N. Y.

Note Health Conference Program, page 373 this JOURNAL.



# *THE JOURNAL* OF THE *MEDICAL ASSOCIATION OF GEORGIA*

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## CARCINOMA OF THE CERVIX

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ROBERT L. BROWN, M.D.

*Atlanta*

This is a clinical study of all cases of carcinoma of the cervix seen at the Robert Winship Memorial Clinic at Emory University Hospital during the years 1937 to 1946 inclusive. The total number of cases is 262, but of these 51 had had previous treatment elsewhere, and in 15 no treatment was given, either because the disease was very advanced or because treatment was to be given elsewhere after a diagnosis had been established. In only 8 cases was treatment withheld because of the very advanced stage of the disease. This leaves a total of 196 cases which received all their treatment at the Winship Clinic, and it is upon this group that the statistics in this paper are based. All of these patients were seen in a tumor clinic in a general hospital, and it is felt that they represent a fair sample of the white population of this area, including individuals from all economic levels.

### *Symptoms*

The most important symptom of carcinoma of the cervix is abnormal vaginal bleeding, which is almost always intermenstrual or post-menopausal. It was present in nearly all of our cases. In 11 of the 13 patients in whom it did not occur a vaginal discharge was present, and should have served as a warning signal. One case which did not give a history of abnormal bleeding or discharge

had persistent pain in the back and legs and in only one case in the entire series was there a complete absence of pelvic symptoms. In this case a diagnosis was made after the physician had done a complete physical examination on a patient who had presented herself at his office because of a headache. We found that in 99.5 per cent of all cases definite symptoms pointing to pathologic changes in the pelvis were present. This means that carcinoma of the cervix is not an obscure disease. It causes definite readily detectable symptoms, and this fact emphasizes the importance of educating the general population regarding the danger signals of cancer of the cervix. These are intermenstrual or postmenopausal vaginal bleeding, vaginal discharge which is usually blood-tinged, and pain in the pelvis, back or legs. Recent reports by Pund, Taylor and others stress the importance of pre-invasive carcinoma as a precursor of clinically detectable carcinoma of the cervix. In these cases bleeding, discharge and pain may be absent. It is hoped that newer methods of detection such as the Papanicolaou smear may be helpful in finding these cases.

### *Diagnosis*

After a careful history has been taken with special attention to the points mentioned above, the cervix is exposed with a vaginal speculum under good light, with the patient in the lithotomy position. The cervix is inspected before a bimanual examination is done. In this way bleeding which may follow palpation of the cervix and which may interfere with a good view of it is avoided. The location, character and extent of the growth are noted. Sometimes carci-

From the Robert Winship Memorial Clinic, Emory University School of Medicine.

Read before the Medical Association of Georgia, Augusta, April 23, 1947.



noma of the cervix is papillary, fungating or cauliflower-like. At other times it is found to be relatively flat and infiltrating. Some degree of ulceration is nearly always present and the lesion usually bleeds when touched with the biopsy forceps. As a rule, biopsy specimen can be removed with a biopsy forcep with very little difficulty. In our clinic the Healey cervix biopsy forceps have proved very satisfactory. There are some cases, however, in which the tissue does not come away readily and in which it must be excised with a scalpel. For this purpose we have employed a No. 11 Bard-Parker blade on a long handle. The extent of the lesion is of great prognostic importance, as will be brought out later in this paper, and one should carefully note whether or not there is extension from the cervix onto the vaginal wall. After the cervix has been well visualized, a bimanual examination is done and the consistency, location, size and mobility of the cervix and fundus of the uterus are noted. Both adnexal regions are also carefully palpated. The examination is not complete without a rectal examination. This is most valuable in giving information regarding parametrial extension of disease. The extent of parametrial involvement should be carefully recorded. The region of the obturator foramen along the pelvic wall should be checked. The abdomen and left supraclavicular region should be palpated for evidence of extension above the true pelvis and for distant metastases. If there is persistent bleeding following the removal of tissue for biopsy purposes, it can readily be controlled by the use of the Bovie coagulating current. Sometimes a small tampon is left in the vagina over-night. Usually bleeding does not present any special problem following removal of a biopsy.

#### *Treatment*

Although there may be some variation to meet individual problems, the plan of treat-

ment which we most frequently employ begins with the administration of 200 KV x-ray therapy to the pelvis through two anterior and two posterior ports. Filtration is 0.5 millimeter of copper and 1 millimeter of aluminum, the target skin distance is 70 cm., and the dose per treatment is 300 r. The location of the pelvic portals is shown in the accompanying diagram. One port is treated daily until each pelvic port has been treated once and following this two ports, one anterior and one posterior on opposite sides, are treated daily until a total of 1500 r. has been given to each of the four pelvic ports. X-ray therapy is also given to the cervix directly through a vaginal portal. A lead-lined cylinder 4 cm. in diameter is introduced into the vagina, under direct vision, and centered over the cervix. The x-ray machine is then connected to the cylinder and the set-up is checked through a small electrically-lighted periscope which is attached to the machine. Two-hundred kilovolt x-ray therapy with a filtration of 0.5 millimeter of copper and 1 millimeter of aluminum is then given at a distance of 50 cm. in doses of 400 r. per treatment. The vaginal portal is treated after each pelvic cycle until a total dose of 1600 r. has been given. Two weeks following the completion of x-ray therapy the patient is admitted to the hospital and radium is placed in the cervix and uterine cavity for a dose of 3000 milligram hours. The amount of radium used is 50 milligrams. The filtration is the equivalent of 0.5 millimeter of platinum, and the radium is equally divided among three capsules placed in tandem, and then enclosed in a small rubber tube. The radium is placed in the cervix under general anesthesia in the operating room, after a gradual dilatation of the cervical canal. It is sutured in place with a long chromic catgut suture, which is tied in a special type of slip knot, which facilitates removal of the radium at

completion of treatment. A strong linen thread is securely tied to the radium applicator before it is inserted and is brought out through the vagina and fastened with adhesive tape to the suprapubic area. The rectum is packed away from the cervix with the gauze packing and the bladder is then packed away as much as possible. The vagina is filled with gauze packing as an extra precaution against displacement of the radium. The patient is catheterized and a mushroom type retention catheter is left in the bladder. This catheter is released every four hours, or more often if necessary. The patient is given a diet of liquids without milk and is given no cathartics or enemas. She is kept recumbent in bed until the radium has been removed. The time required to administer 3000 milligram hours with 50 milligrams of radium is, of course, 60 hours. After removal of the vaginal packing, the radium and the catheter, the patient is given a cleansing douche and an enema and is given a general diet. She is allowed out of bed and usually goes home the following day.

In a number of our earlier cases radium colpostats were used instead of the intravaginal x-ray therapy. London type colpostats were placed in the vaginal fornices and a dose of from 1500 to 2000 milligram hours was given. We now feel that the intravaginal x-ray therapy is preferable to the use of colpostats and the latter have been almost entirely discontinued.

Only one case in this series was treated surgically. In this case the biopsy revealed a very superficial carcinoma. A complete abdominal hysterectomy was done and the patient has been free of any evidence of carcinoma for eight months. We feel that surgery should be considered only in extremely early cases that are excellent surgical risks. Meigs considers about 15 per cent of his cases operable and in this group has 87.4

per cent free of carcinoma at the present time. In our series, 14.7 per cent had involvement of not over half of the cervix and might be considered operable. Of this group treated by radiation methods, 93.1 per cent are free of disease now. Serious complications, such as ureterovaginal fistula, have not occurred and there have been no deaths attributable to radiation therapy. The results of treatment by x-ray and radium in early cancer of the cervix are so good that we believe the medical profession will do well to consider all factors carefully before changing to any other type of therapy.

### *Complications*

It should be noted that the dosage both of x-ray and radium, when used for therapy, is not as high as that used in many other clinics. We feel that over-dosage with radiation carries hazards which in most instances can be avoided without jeopardizing favorable results. Complications have been relatively few. There have been no deaths as a result of treatment. Hemorrhage occurred in 5 cases or 2.6 per cent. In all of these advanced disease was present and it is believed that the advanced carcinoma rather than the radiation therapy was responsible for the hemorrhage. Pyometra occurred in 3 cases or 1.5 per cent. This was relieved by dilating the cervical canal and establishing drainage. Severe proctitis occurred in 5 cases or 2.6 per cent. In all of these the carcinoma was confined to the cervix and the cervix was relatively small, which probably explains the closer approximation of the radium to the rectum and the resultant proctitis. Severe cystitis occurred in 5 cases or 2.6 per cent. Vesicovaginal fistula occurred in 3 cases or 1.5 per cent. In all of these advanced disease was present which was never brought under control by radiation therapy and it is believed that the fistula resulted from extension of the disease, rather than from irradiation effect.

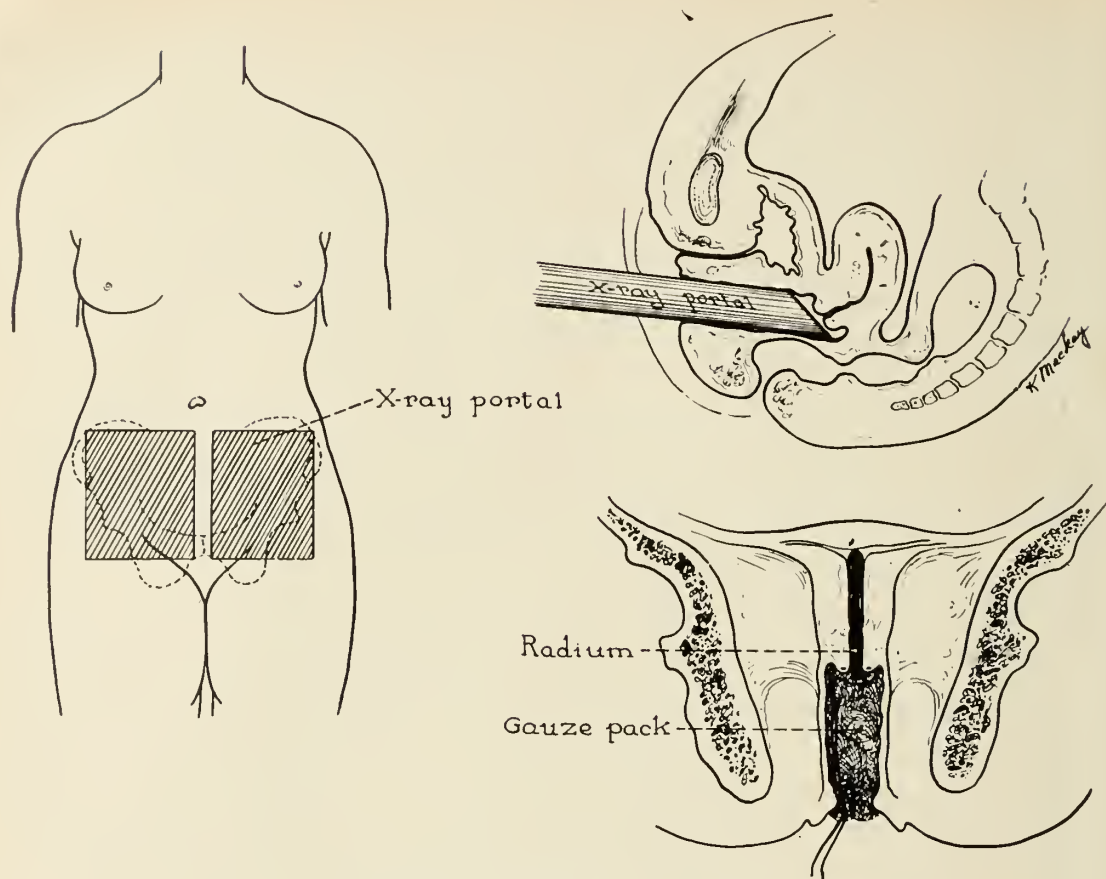


FIGURE 1  
Methods of x-ray and radium treatment.

The same is true of the 1 case in which a rectovaginal fistula developed. Peritonitis occurred in 2 cases or 1 per cent, but subsided satisfactorily in both cases following treatment. Pelvic cellulitis occurred in 1 case. Miscarriage occurred in the 1 case in our series which was known to be pregnant at the time treatment was started. There were no significant complications in 170 cases or in 86.7 per cent of all patients treated.

### Results

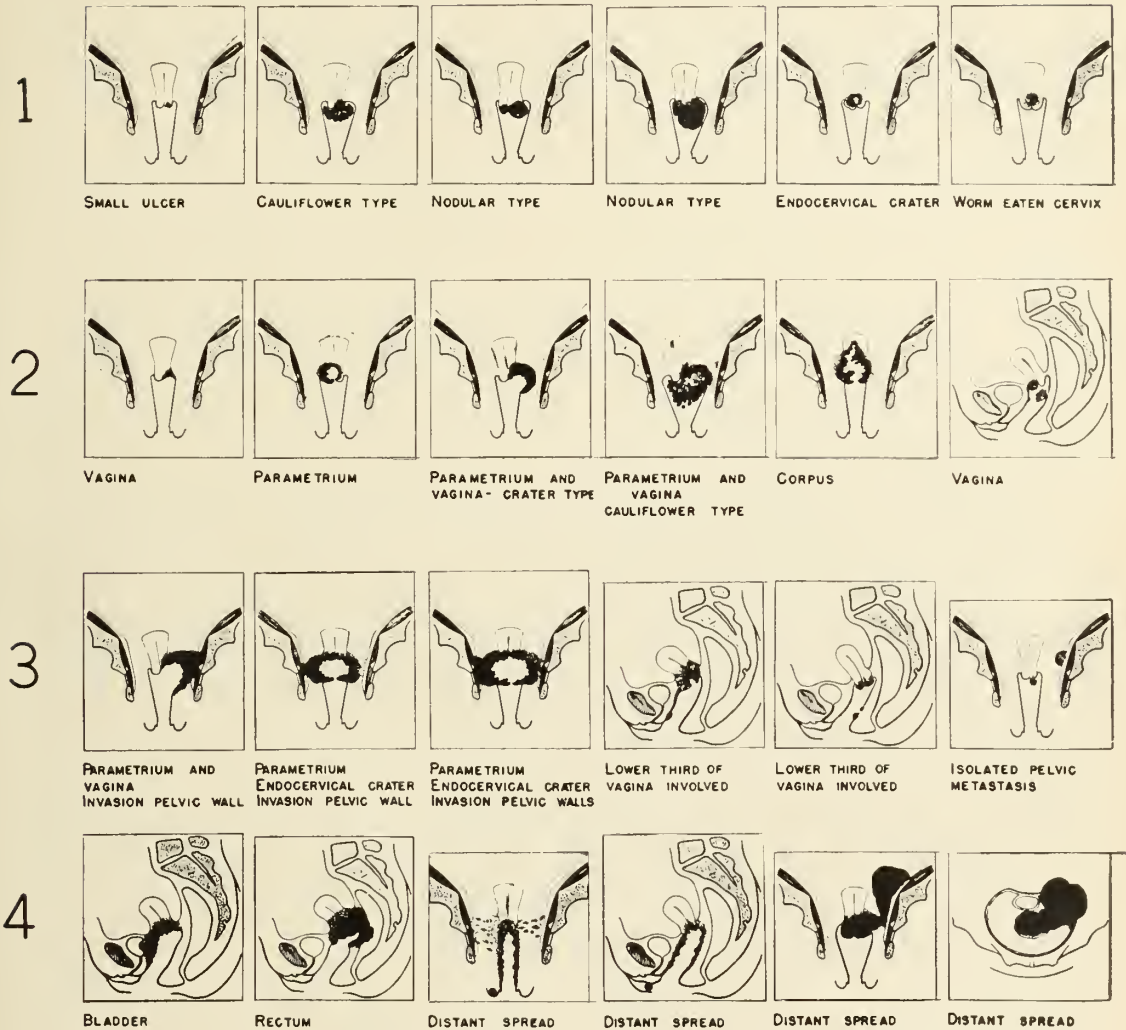
All 77 cases treated five or more years ago have been traced and the result of treatment is known. Of 11 cases in which half or less of the cervix was involved, all 11, or 100 per cent, are free of carcinoma five years or more. In 12 cases in which more than half of the cervix was involved, but in which no extension beyond the cervix could be detected, 9 or 75 per cent are free of

carcinoma five years or more. In the group with clinical extension to the parametrium but without complete fixation the five-year figure is 53.3 per cent. In the cases with extension to the vagina without parametrial involvement it is 28.6 per cent. For those cases in which carcinoma involved both the vagina and the parametrium but did not cause complete fixation (frozen pelvis) or distant metastases, the figure is 22.2 per cent. No far advanced cases have survived five years.

Our cases were also grouped according to the League of Nations classification. We adhered strictly to the requirements of the classification and placed in stage III only those cases in which carcinomatous infiltration of the parametrium had invaded the pelvic wall or in which there was involvement of the lower third of the vagina or in which there were isolated metastases on the



# THE FOUR STAGES OF CANCER OF THE UTERINE CERVIX



## LEAGUE OF NATIONS CLASSIFICATION

FIGURE 2  
League of Nations Classification.

pelvic wall. Our results in this stage and in stage IV, which included involvement of the bladder or rectum and spread of carcinoma outside the true pelvis, were very unsatisfactory. No patients in these advanced groups are free of disease. In stage I, however, we have 20 of 23 cases or 87 per cent and in stage II, 14 of 34 cases or 41.2 per cent free of any evidence of carcinoma for

five years or more.

Of the entire group of 77 cases treated five or more years ago, 34 or 44.1 per cent are free of any evidence of carcinoma. The fact that 29.8 per cent of the patients had disease confined to the cervix when first seen undoubtedly contributes to the relatively favorable results. It is obvious that even better results can be obtained if patients will

consult their physicians earlier, so that treatment can be started in the early stages of the disease.

#### *Relation of Specific Factors to Results*

In determining the relation of specific factors to results, the entire group of 196 cases was used and the results as of January 1947 determined. These are not five year figures in all cases, of course; but they do serve to indicate the relation of certain factors to the response to treatment.

*Age:* The youngest patient was 23 years of age, the oldest was 84 and the ten-year period of greatest incidence was from 40 to 50. There were 8 cases under 30 years of age. Although the results in the group under 30 were not as good as in the other age groups, further study revealed that a much higher percentage of these patients came in with far-advanced disease than during the other decades. It is our belief that the difference in results in all probability is primarily due to the extent of disease present when treatment was started. It would appear that more vigorous educational methods are needed to reach the younger group, so that they will recognize the significance of abnormal bleeding and secure medical attention before carcinoma of the cervix becomes advanced.

*Menstrual history:* Menstrual history was normal in 82 per cent of 142 cases in which menstrual history was known and there was no consistent abnormality in menstruation. Therefore, we feel that previous menstrual history probably does not bear any close relationship to the incidence of carcinoma of the cervix. The results in cases developing before the menopause were essentially the same as those in cases which occurred after the menopause; 47.6 per cent of the cases in the premenopausal group are free of carcinoma at present and 46.2 per cent of the postmenopausal group are without evidence of disease.

*Children:* There were 21 patients who had no children and the results in this group were definitely better than in the group of women who had had children. Further study, however, revealed that only 4.8 per cent were far-advanced when they came in for treatment, whereas 14.5 per cent of the women who had one to three children were far-advanced when first seen and 24 per cent of the women who had four or more children had far-advanced carcinoma at first examination. Extent of disease is probably not the only factor, since in comparable clinical groups the women without children did somewhat better but it undoubtedly plays a very important part in determination of end results. Patients whose youngest child was not over 5 years of age were found to respond somewhat less satisfactorily to treatment than did the women without young children. Here again there was a striking difference in the percentage of far-advanced cases, and it is felt that the extent of the disease was the main factor affecting prognosis.

*Duration of symptoms:* Symptoms one month or less in duration were present in 14.7 per cent of all cases, 46.9 per cent had had symptoms for less than 6 months, and 24.2 per cent had symptoms for a year or more. As might be expected the cases which came in earlier were found to have less advanced disease and the results were definitely better. It is perhaps encouraging that nearly half of the patients sought medical care before six months, but the fact that 53.1 per cent waited over six months indicated the need for further educational work.

*Pain:* The presence of pain proved to be of considerable prognostic significance: 66.2 per cent of the cases which did not complain of pain are now free of any evidence of disease, whereas only 32.3 per cent of those which gave pain as a symptom show no evidence of carcinoma at present. In other

words, the patient with pain does about half as well as the one in whom pain is not present. When the extent of the disease at first examination was checked it was found that in the cases with pain there was extension beyond the cervix in 83.3 per cent, whereas in the cases without pain extension beyond the cervix was present in 51.3 per cent. It is obvious that pain suggests and usually indicates more advanced disease and that this explains the poor results in the patient who has pain as a presenting symptom.

*Extent of carcinoma:* All cases were placed in clinical groups depending upon the clinical extent of disease present at the original examination. These groups were as follows:

1. Involvement of half or less of the cervix.
2. Involvement of more than half of the cervix, but confined to the cervix.
3. Extension to the parametrium without complete fixation of cervix.
4. Extension to the vagina without clinical extension to parametrium.
5. Extension to the vagina and parametrium without complete fixation of cervix.
6. Far-advanced. (Complete fixation in the pelvis, extension to the rectum or bladder, distant metastases).

The results of treatment are directly related to the extent of disease present at original examination. Of 29 cases in which carcinoma involved half or less of the cervix, 93.1 per cent are free of disease at present, and in 29 cases in which there was no clinical evidence of extension beyond the cervix, even though more than half of the cervix was involved, the percentage free of disease at present is 72.4 per cent. When there was extension to the vagina the per cent free of disease dropped to 53.6 per cent. Of the group in which the parametrium was involved 40 per cent are free of carcinoma at present. Of the cases with involvement of both vagina and parametrium, 34.3 per cent are free of disease at present. When the carcinoma is far advanced the percentage of survivals, in our experience, drops to zero.

*Pathology:* Our cases were grouped according to the clinical extent of the disease and then sub-grouped according to the type of carcinoma. It was found that when carcinoma was confined to the cervix there was no significant difference in results between epidermoid carcinoma grades I and II, and III. Grade IV lesions did not do as well and adenocarcinoma was also less favorable. When there was extension to the parametrium, vagina, or both, but without complete fixation, epidermoid carcinoma grade III, did better than grades II and I, suggesting that it may be somewhat more sensitive to radiation therapy. The advanced grade IV lesions, however, did very poorly and adenocarcinoma did not do as well as did epidermoid carcinoma grades I to III. When a case was far-advanced the results were extremely poor, no matter what the disease involved. Ninety-four and eight-tenths per cent of the cases in this series were epidermoid carcinoma and only 5.2 per cent were adenocarcinoma.

*Cervical stump:* The number of cases of carcinoma developing in the cervical stump in our series is small—10—but 60 per cent of these are free of disease at present. This, of course, is a very small group and one cannot draw definite conclusions. It does appear, however, that the prognosis in carcinoma of the cervical stump is certainly not worse than carcinoma developing in the intact uterus.

#### Summary

1. The most important symptom of cancer of the cervix is intermenstrual or postmenopausal bleeding and it is present in nearly every case. If it does not occur the patient usually has other symptoms, such as vaginal discharge or pain, which point to disease in the pelvis.

2. Pain in the lower abdomen, back, hips or legs is of considerable prognostic significance and the patients who have it do only



half as well as those who do not have pain when treatment is begun.

3. The effect of pathologic grade of the lesion on end-results was not striking except in the very anaplastic grade IV lesions, which did relatively poorly. The grade III cases did a little better than the II's and this suggests that they may be more radiosensitive. Adenocarcinoma does not respond to treatment quite as well as epidermoid carcinoma, grades I to III.

4. The clinical extent of disease at the time treatment is started is more closely related to the end-results than any other factor and, to a considerable degree, it explains differences in results which might on superficial examination be thought to be due to other causes.

5. Carcinoma of the cervix occurred in women from 23 to 84 years of age in our series, but was most frequent between the ages of 40 to 50.

6. It has been our experience that women who have had children have more advanced disease when they come in for treatment than do those who have not had children. It also appears that women who have young children do not do particularly well, largely because their disease is more advanced when they seek medical attention.

7. The results of treatment in the premenopausal and postmenopausal groups are essentially the same. Previous menstrual history does not seem to be related to the incidence of carcinoma of the cervix.

8. When carcinoma was confined to the cervix at first examination, League of Nations stage I, the five-year results showed 87 per cent free of disease. When there was extension to the parametrium, vagina or both, but without complete fixation of the cervix, League of Nations stage II, the five-year figure was 41.2 per cent. No far advanced cases survived five years.

9. Results following radiation therapy

were found to compare favorably with the best statistics following surgery in the group which might be considered operable. A very significant and worth while salvage has been secured in many cases that were obviously inoperable.

NOTE: The authors would like to express appreciation to the staff of Emory University Hospital, and especially to Dr. John Denton and Dr. Walter Holmes, for the free use of their material in connection with this study.

#### BIBLIOGRAPHY

1. Anspach, B. M.: Review of Problem of Cervical Cancer Since Use of Radium in 1912, *Am. J. Obst. & Gynec.* 50: 681-690 (Dec.) 1945.
2. Auerbach, Stewart H., and Pund, Edgar R.: Preinvasive Carcinoma of the Cervix Uteri, *J. A. M. A.* 131: 960-3 (July 20) 1946.
3. Bourne, A. W., and Williams, L. H.: Recent Advances in Obstetrics and Gynecology, ed. 6, Philadelphia, P. Blakiston's Son & Co., 1945, pp. 135-160.
4. Del Regato, J. A.: The Treatment of Cancer of the Cervix, *Radiology*, 46: 579-82 (June) 1946.
5. Dobbie, B. M. W.: Results of Treatment in a Series of Cases of Carcinoma of the Cervix, *Brit. J. Radiol.* 18: 210-212 (July) 1945.
6. Emmert, F. V., and Clarke, H. M.: Diagnosis and Treatment of Cervical Cancer, *S. Clin. North America*, 24: 1185-1197 (Oct.) 1944.
7. Erskine, A. W.: Indications and Limitations of Transvaginal Roentgen Therapy for Cervical Cancer, *Radiology*, 46: 458-459 (May) 1946.
8. Frazell, E. L.: Correlation of Calculated Doses and 5 year Survivals in Radiation Therapy of Cancer of the Cervix. Review of 136 Cases, *Am. J. Roentgenol.* 39: 861-65.
9. Garcia, Manuel: Tissue Dosage in the Control of Carcinoma of the Cervix, *Radiology*, 40: 463-469, 1943.
10. Garcia, M., and Schlosser, J. V.: Problem of Secondary Infection in Cervical Carcinoma, *Radiology*, 46: 448-457 (May) 1946.
11. Healy, W. P., and Twombly, G. H.: Cancer of the Cervix, *Am. J. Roentgenol.* 49: 519-530 (April) 1943.
12. Howes, W. E.: Tissue Dose Estimation in Combined Roentgen and Radium Therapy for Cervical Carcinoma, *New York State J. Med.* 44: 1563-1568 (July) 1944.
13. Johnston, James R.: Carcinoma of the Cervix. A Study of 233 Cases, *Pennsylvania M. J.* 46: 1062-67 (July) 1943.
14. League of Nations Health Organization: Atlas Illustrating the Division of Cancer of the Uterine Cervix into Four Stages, P. A. Norstedt & Sons, Stockholm, 1938.
15. Maino, C. R., and Mussey, R. D.: Carcinoma of Cervix Coincident with Pregnancy, *Am. J. Obst. & Gynec.* 47: 229-244 (Feb.) 1944.
16. Meigs, J. V.: Wertheim Operation for Carcinoma of Cervix, *Am. J. Obst. & Gynec.* 49: 542-553 (April) 1945.
17. Morton, D. G.: Carcinoma of Cervix, Treatment and Prognosis, *West. J. Surg.* 52: 1-11 (Jan.) 1944.
18. Morton, D. G.: Pelvic Lymphadenectomy in Treatment of Cervical Cancer, *Am. J. Obst. & Gynec.* 49: 19-31 (Jan.) 1945.
19. Schlink, H. M., and Chapman, C. L.: Cervical Cancer, 1930-1942. *M. J. Australia*, 2: 377-379 (Oct. 7) 1944.
20. Schmitz, H. E.: Carcinoma of the Cervix, *Radiology*, 40: 458-462, 1943.
21. Schmitz, H. E., and Sheehan, J. F.: Five Year End Results in Cervical Carcinoma Treated with Radium and 800 Kilovolt Roentgen Rays, *Am. J. Roentgenol.* 45: 229-234, 1941.
22. Smith, G. Van S., and Dresser, R.: Carcinoma of the Uterine Cervix; Interval Report on Treatment, Results and Complications, *Am. J. Obst. & Gynec.* 50: 1-10 (July) 1945.
23. Taylor, H. C., and Guyer, H. B.: A Seven-Year History in Early Cervical Cancer, *Am. J. Obst. & Gynec.* 52: 451-5 (Sept.) 1946.
24. Ward, G. G.: Carcinoma of the Cervix Following Supravaginal Hysterectomy, *Am. J. Obst. & Gynec.* 41: 660-663, 1941.

## ARRHENOBLASTOMA

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*Jasper*

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This is a brief discussion of a clinicopathologic condition and report of a case.

The term arrhenoblastoma originated with Robert Meyer and signifies a low-grade malignant tumor which makes like male, but is not intended to include cases of ovario-testis, or true or pseudohermaphroditism, nor cases of spontaneous defemination without ovarian tumors or by partial defemination by castration.

The term arrhenoblastoma is useful in the designation of a small but interesting group of tumors, through the action of what is thought to be the hormone produced by the tumor defeminizing and masculinizing effects become manifest in the host—and it seems useful to keep in mind a distinction between those symptoms which arise from the loss of feminine characteristics. So far as the individual is concerned, the former are negative changes and may be grouped under the term defemination, while the latter are positive alterations and classed as signs significant of masculinization.

The signs and symptoms of defemination are persistent amenorrhea and sterility. The breasts and endometrium become atrophic. Genitalia are usually normal, with perhaps hypertrophy of the clitoris. The uterus becomes infantile, and the unaffected ovary small.

The signs and symptoms of masculinization are generalized growth of hair on the face. The growth frequently is so active as to require daily shaving. There is a change of distribution of hair on the pubes, abdomen and thighs. The facial expression or appearance is masculine, partially due to coarse features, distribution of hair, bushy

eyebrows and sideburns. There is an enlargement of the larynx, resulting in lowering of the pitch of the voice. The skeleton has a tendency to become heavier and there is an inversion of the normal pelvic to shoulder ratio of the female in long-standing cases.

There is usually regular loss of weight, and at times abnormal deposits of fat may occur over the body. There are also nervous and emotional symptoms of variable type and intensity.

The pelvic tumor has always been unilateral and may be quite large or very small and such pain as may be noticed is produced by pressure of the growing tumor or secondary metastasis.

The greatest incidence is between the ages of 16 and 66 years. In general, the course is continuous and progressive. Some manifestation may be interrupted by fluctuant variations of endocrine imbalance, or by administration of the estrogenic substances. The untreated cases go on to death from malignant metastasis.

The treatment is surgical removal of the tumor.

## REPORT OF CASE

O.W., aged 18 years. This patient presented herself at my office April 12, 1946, stating her menses ceased 3 years ago, but she had been taking injections and since it was a long trip to go every 10 days for the injections, asked that they be given here.

She had a package of Progynon B — 2,000 units, with her—we gave the injection without examination and directed the office nurse to give the subsequent doses. Then on June 25, 1946, she requested that she see the doctor for examination.

History from mother and patient was that she was an apparently normal child. There were no peculiarities prior to onset of the present illness. Onset of menses at age of 13 years. Her menstruation was regular and normal for one year and then suddenly ceased. Shortly thereafter there was noticeable growth of hair on her face and lowering of pitch of her voice. Patient became irritable and ceased attending school.

Approximately 2 years after cessation of menses she consulted a physician. The doctor began giving her the injections at 10 days to 2 weeks' intervals. She menstruated fairly regularly but noticed no change in her voice, and the hair growth continued to become more profuse and there was no change in the emotional or depressed condition.

*Physical examination.* Fairly well developed and well-nourished white female some 18 years of age. Rather emotional, marked baritone voice, extremely heavy growth of blonde hair of face, more marked in temples.



Temperature 98 degree F.; pulse rate 65; B.P. 120/80.

Head: Negative—except for face and hair growth.

Neck: Negative.

Chest: Negative—except very small mammae.

Abdomen: Fairly large freely movable mass palpable R.L.Q.—no pain or tenderness. There was thought some evidence of ballottement.

Genitalia: Apparently normal.

Distribution of pubic hair showed a tendency to triangulation toward umbilicus. There was excessive growth of hair on the thighs.

Rectal examination: Tumor could be moved without pain or discomfort.

Laboratory examinations: W.B.C.—7,800; R.B.C.—4,500,000; Hb.—90 per cent; urinalysis: negative.

B.M.R.: Plus 5.

Diagnosis of right ovarian tumor was made and surgical removal was recommended. The patient became slightly hysterical when she was told she had a tumor.

Patient was admitted to the hospital 2 days later for surgery. (Nurse catheterized the patient in preparation for operation and remarked about the grossly enlarged clitoris).

A right rectus incision was made under ether anesthesia. Approximately 200 cc. of straw-colored fluid escaped when the peritoneum was opened and approximately 400 cc. of fluid were later removed from the abdominal cavity. A bluish gray tumor approximately the size of a six months' fetal head was delivered through the incision. The tumor was attached to the right fallopian tube and extended into the broad ligament. The right ovary was obliterated; the tumor was removed and the adnexa examined. The left ovary appeared normal, the uterus small.

Pathologic report was arrhenoblastoma 12 cm. in diameter, chiefly intermediate type structure, replaces the ovary; mucinous degeneration of central area of tumor.

The patient menstruated July 4, 1946, seven days postoperative, with 2 days' duration and very scanty. Her next menstruation was 28 days later, 4 days' duration. Menses has since occurred every 28 days, with 4 days' duration, without discomfort.

All estrogenic substances were discontinued following surgery.

### Discussion

This patient has been seen at monthly intervals. Her complexion has become progressively clearer. The hair of the face has gradually disappeared. She has become more stable emotionally. The breasts have enlarged and have become full and firm. However, the voice has shown only slight change and following period of silence she has difficulty of speech, which causes embarrassment. She is now attending school and carrying on her usual activities.

### REFERENCES

1. Norris, Edgar B.: *Am. J. Cancer*, 32:1 (Jan.) 1938.
2. Novak, Emil: *Am. J. Obst. & Gynec.*, 36:840 (Nov.) 1938.
3. Univ. Georgia School of Med., Pathology Department.
4. *Obstetrics and Gynecology*, Curtis, vol. 3.
5. *The Cyclopaedia of Medicine, Surgery and Specialties*, vol. II, p. 45.

### DISCUSSION OF PAPERS BY DRs. SCARBOROUGH AND BROWN, AND ROPER

DR. EDGAR R. PUND (Augusta): I feel highly complimented that Dr. Brown requested me to discuss his excellent paper.

Our recent experience in a study of carcinoma of the cervix has been directed towards the diagnosis of the incipient cancer. From a study with Dr. Auerbach on uteri which had been removed for reasons other than cancer, we determined the pathogenesis of carcinoma of the cervix. The incipient pre-invasive cancer begins in the junctional endocervix at an average age of 36 years and may remain pre-invasive for an average period of six years. It sooner or later invades the endocervix and may remain concealed as a covert carcinoma for an additional period of several years. Only after invasion and penetration of the vaginal reflection does it become an overt carcinoma.

The first question arises: How shall the incipient pre-invasive cancer be diagnosed and differentiated from the covert invasive cancer? The Papanicolaou test probably offers the best means. I am unable to present our results with this method, but we have been favorably impressed with its possibilities.

The next question is the choice of therapy—radiation or surgery. I think Dr. Brown and Dr. Scarborough should be congratulated on their results with radiation. On the other hand, we feel that in pre-invasive carcinoma the approach should be surgical because if it has not invaded the cervix there is no tendency to metastasize. Also, when the pre-invasive cancer is detected in individuals 36 years of age or under, surgery permits preservation of the patient's ovaries and avoids the castration effects of x-ray therapy. I realize that this is rather radical, but we have tried it in some cases with good results.

I should like to show three slides.

(Slide) This is a photomicrograph of a section of the cervix from a woman 29 years of age. Note the cancerous epithelium is confined to the surface and is therefore a pre-invasive carcinoma. An additional biopsy did not reveal carcinoma, showing that these carcinomas, when early, are extremely limited for a short period of time. We are up against the problem of what to do. We do not know whether this is the border of an invasive cancer and therefore must determine whether it is entirely pre-invasive or a covert invasive cancer. We therefore recommend curettage of the endocervix. In the next slide, a single sliver of cancerous epithelium is noted. No invasion of endocervical tissue is observed. Since that was all that was found, we concluded that we were dealing with an extremely early carcinoma. We therefore recommended that a total hysterectomy be performed without removal of the ovaries. The third slide is from the junctional endocervix of the uterus after hysterectomy and the remains of the pre-invasive carcinoma are apparent. I cannot say definitely that the patient is cured, but because the entire cancer-bearing area has been removed, the possibilities of recurrence and metastasis are extremely remote. In addition, by preserving her ovaries, we have saved some doctor a considerable amount of trouble and inconvenience.

I want to thank Dr. Brown again for requesting me to discuss his instructive paper, which I enjoyed very much.

DR. JOHN T. PERSALL (Augusta): This paper on carcinoma of the cervix was a very concise treatise on one of the most important phases of disease in the human race, so important that I should like to further emphasize several points.

Cancer develops in the cervix of the uterus with greater frequency than any other part of the body, with the possible exception of the female breast. It is most frequent preceding, during and following the menopause.

Formerly it was thought that relative frequency of



cervical cancer to cancer of the body of the uterus was 20 to 1, but now we know the frequency of cancer of the body of the uterus rivals cervical cancer.

The origin of cancer of the cervix is yet vague and inexplicable. Erosions are frequently the starting point of cancer, the growth starting at the margin of an erosion or, less often, where the squamous and columnar epithelium meet at the external os. Meyer concludes "That early squamous-cell carcinomas always rise from squamous epithelium and always from basal cells; the carcinoma begins in the basal portion of the epithelium and invades upward at the expense of the normal epithelium."

Cervical stricture is important in its influence on the etiology of cancer; obstructed uterine drainage is important as a factor in development of cancer of the body and cervix of the uterus.

I feel that estrogens are a definite factor in the influence on carcinoma in some women. Estrogens should be avoided in all individuals on whom administration of estrogen causes bleeding, and also in cases with extensive endometriosis or adenomyosis of the rectovaginal septum, and in all those who have been operated on or irradiated for carcinoma.

From our present knowledge the unhealthy cervix should be removed at the time of hysterectomy, the healthy cervix removed or left in depending on individual circumstances.

Carcinoma of the cervix is classified as of the external or vaginal portion of the cervix and that of the endocervix. Cancer of the external cervix is, 95 per cent of the time, squamous cell (epidermoid), and in 5 per cent of the cases adenocarcinoma.

In the early stage cancer may be recognized only microscopically, solely by characteristic changes in cellular structure.

The primary growth has no predilection for either the anterior or posterior cervical lip.

Tumorous elevation of the cervix is not the rule, although there is quite frequently an extensive cauliflower-like, nodular mass. The cervix as a whole enlarges moderately, rarely to greater than double size.

In the later stage, there is extension to the vaginal wall, as well as anteriorly toward the bladder, and more deeply into the broad ligament tissues. Progress along the cervical canal into the mucous membrane of the uterus tends to be limited.

Broder's classification of epidermoid carcinoma has wide acceptance and is very important. Treatment and prognosis cannot be safely based on this alone but must be modified by clinical criteria such as: age, local extension of the tumor, fixation of the uterus and the cancer resistance of the patient.

Cancer of the endocervix has certain characteristics which differentiate it from a growth of the vaginal portion of the cervix. It may grow outward and resemble the former, or it may remain confined within the cervical canal, infiltrating the deep tissues, reducing the cervix to a debris-filled cavity before it is recognized as such. The parametrium and regional lymph glands may be attacked before symptoms occur. Hydronephrosis, caused by pressure upon the ureters, is occasionally the first clinical evidence of trouble.

Diagnosis of cancer in the earliest stage is yet difficult. Except for leukoplakia, naked-eye study remains the most dependable asset in the recognition of questionable areas which may require biopsy. The Schiller test is a help in that it points out suspicious areas for biopsy.

Recent newer methods of diagnosis as that of Papanicolaou and Traut promises to be of marked help in diagnosis since a discharge may be procured by a glass pipet in the office during a routine visit and examined.

Diagnosis of cancer, as commonly encountered, is not so difficult. Hemorrhage or a bloody discharge is the most important symptom of cancer of the cervix. Inter-menstrual flow, gushing hemorrhage during menstruation or inexplicable bleeding after intercourse are outstanding features of carcinoma. Hemorrhage from the uterus in a woman definitely beyond the menopause has

always been regarded as positive evidence of cancer until proved otherwise.

Friable tissue, on digital examination, which bleeds freely on manipulation is the most important objective symptom of all.

Determination of the degree of broad ligament fixation is of the utmost importance. Thickening in the broad ligament and adnexa was accepted as a grave sign until recently. Now we know that this may be due to previous pelvic infection or cellulitis and not certain evidence of extension. Similarly, the inguinal glands may be enlarged due to complicating infection, being rarely invaded by metastasis.

Bisection of a cervix (anterior lip) for inspection of the endocervix is superior to curettage.

Loss of weight, cachexia, pain, enlargement of the inguinal glands, swelling of the limbs and offensive discharge are of little value in diagnosis of cervical cancer. The patient is already beyond help when all of this occurs.

Endocervical cancer should not be forgotten. Every patient of cancer age with inexplicable passage of blood from the uterus requires exploration of the interior of the uterus.

Surgical removal should not be attempted in cases of cancer of the cervix if the growth has advanced beyond stage II. In other words, the cancer may have involved in the vagina somewhat and there may be some induration of the broad ligaments but palpation must reveal at least moderate mobility of the uterus.

In operations, the choice lies between radical vaginal hysterectomy and radical abdominal hysterectomy, which is the operation of choice.

All other stages should be treated by x-ray or radium.

In regards to the operation of excisions for the surgical removal of culdesac of Douglas for the cure of prolapse of the uterus, this operation is simple and apparently quite effective in the cure of this condition.

On the use of morphine in labor, there was for quite a time, after the introduction of "twilight sleep," a tendency to "never use" morphine in labor, to such an extent that it probably was neglected in many cases. Today we know that not only is it invaluable in such conditions as primiparous labor and occiput posterior but in false labor and long labors where the patient is exhausted, the proper use of morphine is one of the most valuable adjuncts in the treatment of these conditions. The three or four hours rest rendered by this drug usually causes the exhausted patient to deliver soon and the false labor is usually stopped.

Arrhenoblastoma is a rare and quite interesting tumor. I should like to recapitulate a few of the facts concerned with its origin, diagnosis, signs and symptoms, and treatment of this tumor.

It is thought by Robert Meyer that "cells" in the region of the "rete ovarii," analogous to the rete testes in the male, are naturally turned in the male direction and normally remain embryonic and undeveloped in the ovary; when stimulated to tumor growth they give rise to neoplasms which are masculinizing in their effect and hence are called arrhenoblastoma.

Ovarian tumors arising from male directed cells tend to cause masculinization in formerly normal women if the tumor contains cells which elaborate the male sex hormone; this has occurred in almost one-half of the reported cases; in fact, symptoms of virilism are almost a prerequisite in the establishment of diagnosis of arrhenoblastoma. Defeminizing phenomena, such as amenorrhea and decreased size of the breasts, occur in some cases.

Arrhenoblastoma is a rare tumor. Only some 60-odd cases have been reported.

These tumors are often like granulosa-cell tumors, but tend to be more nodular, grossly. Almost always they are found to be unilateral, mostly solid, frequently necrotic and hemorrhagic.

According to the stage in which development was arrested, these tumors differ greatly. If highly differentiated the tumor is a testicular adenoma, resembling tubules of the testes. If undifferentiated, the growth

is sarcoma-like, resembling the rudimentary tubules of the testes. A third type, being intermediate between the above two and having characteristics of both, has been recognized.

Many of these tumors are similar to granulosa cell or theca cell tumors.

It has been well recognized by pathologists that a positive diagnosis of arrhenoblastoma is often unwarranted on the microscopic evidence alone, without a clinical history of defeminization or masculinization. The sarcomatoid type of growth is most active functionally.

It may be almost impossible to clinically recognize these cases in the early stages when there is no evidence other than hypertrichosis and amenorrhea. Later follows harshness or deepening of the voice, resembling laryngitis; hirsutism becomes more marked; acne is present usually. Change from female to masculine type-female is characterized by a transition to a male type of facies, a more male distribution of hairs, atrophy of the breasts and a change in body physique to a more male type. Hypertrophy of the clitoris is an important and outstanding feature, though not always present. Hormone study is of little diagnostic value as yet.

Basophilic adenoma of the pituitary gland, adrenal cortical disturbances in the absence of real tumor growth, and virilizing tumors of the adrenal cortex present almost identical symptoms. The rare virilizing tumors of the adrenal cortex occur mostly in children and adolescents. Hypertrichosis and hypertrophy of the clitoris are characteristic features. Half of the cases show adiposity.

An arrhenoblastoma may be small but it is usually readily palpable. The relatively benign character of the growth merits emphasis even in those cases with a sarcomatoid structure.

In treatment, the removal of one ovary is sufficient in most cases of arrhenoblastoma; usually no x-ray treatment is required.

DR. C. J. ROPER (Closing): There are only two brief remarks I want to make. First, I want to thank Dr. Persall for this enlightening discussion of the paper. The other point that has not been brought out in the paper or discussion, is that Novak and others have removed these tumors from patients who were sterile at the time and later have borne children.

DR. ROBERT L. BROWN (Closing): I wish to thank Dr. Persall and Dr. Pund very much for their discussion.

#### A. M. A. COMMITTEE TACKLES NURSING SITUATION AND ITS PROBLEMS

The work of the committee authorized by the A. M. A. House of Delegates to study all phases of the nursing situation is already well under way, according to its chairman, Dr. T. P. Murdock of Meriden, Connecticut. The committee's first meeting was held a few weeks ago in the New York headquarters of the Medical Society of the State of New York, and a number of joint meetings will be held soon with nursing organizations and with the American Hospital Association.

Dr. Murdock says that "we plan to approach the nursing problem on the basis of the number of nurses in the United States at the present time; the number needed; the number of students in nursing schools and the number that should be enrolled. The matter of retirement funds, the economic problem, the curriculum in nursing schools, the question of increasing or lowering of nursing standards and the question of courses for bedside nursing and administrative work also will be considered."

Serving with Dr. Murdock on the committee are: Drs. Warren Draper, National Red Cross Headquarters, Washington; Donald C. Smelzer, Germantown Dispensary and Hospital, Philadelphia; Wingate M. Johnson, 402 North Liberty Street, Winston-Salem, N. C.; and Harold K. Gray, The Mayo Clinic, Rochester, Minn.

## EXCISION OF THE CULDESAC OF DOUGLAS FOR THE SURGICAL CURE OF HERNIAS THROUGH THE FEMALE CAUDAL WALL, INCLUDING PROLAPSE OF THE UTERUS

RICHARD TORPIN, M.D.

*Augusta*

Urethrocele, cystocele, caudal displacement of the uterus, enterocele and rectocele all are a part of a herniation through the pelvic portion of the female abdominal wall. Had the attention of the early gynecologists been focused upon this fact the management of these conditions from an engineering standpoint would be better understood by those of the present time. The correlation of the anatomy with the functional strains and stresses of this region needs some revision over that maintained by the early students and still commonly taught. The problem, as Barrett<sup>1</sup> states, is more complicated because through this wall pass the bowel and urinary channels and the ever-changing one of reproduction.

The concept generally maintained and taught in regard to support and fixation of the uterus and other female pelvic structures is that these lie mainly in the integrity of the pelvic floor, consisting of the voluntary muscles including the principal one of the levator ani group. This concept as shown by various studies is probably not correct and should be modified in that there lies above the outlet a complicated sheet of musculo-fascial tissue, which is the true support of the pelvic organs, including the urinary bladder, uterus and upper portion of the rectum. The function of the pelvic outlet with its system of voluntary (striated) muscles is then mainly sphincteric. One of the first to stress the importance of this region

<sup>1</sup>From the Department of Obstetrics and Gynecology, University of Georgia School of Medicine.

Read before the Medical Association of Georgia, Augusta, April 23, 1947.



was Mackenrodt who described the smooth muscle tissue extending laterally from the region of the cervix at the lower end of the broad ligaments.

Some of the studies supporting this concept are those of Sears, Mengert and Power, as well as the clinical investigations of a host of gynecologists whose approach is somewhat different.

According to Sears<sup>2</sup>, it is important to consider that within the abdominal and pelvic cavities there are two quite different systems of fascia. The one, a strong dense plane of true fascia lining the muscular and bony walls of the abdomen and pelvis, is designated as muscle fascia (Tandler), deep intra-abdominal fascia (Gallaudet), or voluntary fascia (Davies). From the abdomen it extends downward into the pelvis and at the origin of the levator ani muscle from the lateral pelvic wall it splits into three layers. One extends caudally to line the lateral wall of the ischiorectal space; the second covers the inferior surface of the levator; and the third, the superior levator or supra-anal fascia, covers the cranial surface of the levator and coccygeus muscles. The inferior and superior levator fascias meet at the genital hiatus and fuse around the free border of the levator muscle.

The other, the subperitoneal connective tissue, so named by Tandler and called by Gallaudet the superficial intra-abdominal fascia and by Davies the involuntary fascia, in the early development of the body is a loose areolar structure, which, as the organs of the pelvis are formed and move into their final positions is developed into planes and bands which, from time to time, have been given special names. This rather loosely woven connective tissue structure with its various condensed bands and planes fills the space between the peritoneum and the deep or muscle fascia lining the two great cavities. In some areas it is only a thin areolar substance, while in others it fills rather large spaces with compact bands of fibrous tissue, extending from the pelvic wall to the viscera.

One of these condensations is the Mackenrodt or cardinal ligament. This structure, considered by Mackenrodt to be an important support to the uterus, is described by Tandler as a condensation of the subperitoneal connective tissue about the uterine vessels as they approach the uterus.

The summary and conclusions of a novel study by Mengert<sup>3</sup> follow:

1. The experiment was performed on eight female fresh cadavers none of which had uterine prolapse. After attaching a 1 kg. weight to the cervix, the paired structures attached to the uterus were severed in varying sequences and the resulting uterine descent measured.

2. Section of the round, ovarian, infundibulopelvic, and the upper third of the broad ligaments hardly affected the position of the uterus in the pelvis.

3. The pelvic floor, although it was never incised, did not hinder experimental prolapse of the uterus, and therefore could not have contributed to the uterine support in any of the eight subjects.

4. Section of the parametrial (lower two-thirds of the broad ligament) and the upper two-thirds of the paravaginal tissues allowed an average uterine descent of 10.5 cm.

5. Marked descent of the uterus amounting to actual prolapse never occurred so long as any part of the upper two-thirds of the paravaginal and/or lower two-thirds of the parametrial tissues were intact. Of these two arbi-

trary divisions of the urogenital fascia propria, the paravaginal tissue seemed to be slightly more important, for its division allowed an average uterine descent of 6.9 cm. as compared with 3.6 cm. following division of the parametrial tissues.

Power<sup>4</sup> in 1939 from an extensive serial section study of female pelves observed:

The smooth muscle tissue, lying between the pelvic peritoneum and the upper or superior surface of the levator ani muscle, is arranged as a series of bundles radiating from the uterus at the level of the internal os. The peripheral attachments of these bundles enable the tissue to be divided into three groups of fibers: anterior, lateral, and posterior groups.

The *anterior fibers* arise from the anterior and the anterolateral aspect of the cervix and are attached (a) to the posterior aspect of the os pubis either directly or through the intermediary of fibrous bands and (b) into the muscular coat of the bladder. The muscle fibers which make up this group can be subdivided into the following bundles:

The *lateral group* (which is apparently identical with the ligaments of Mackenrodt) arises similarly from the lateral aspect of the cervix. They diverge and form a flattened fan of fibers which is attached by means of fibrous strands to the "arcus tendineus." This group is subdivided into an upper and lower bundle.

The *posterior group*. Also arising from the cervix enter into the composition of the uterosacral ligaments or find insertion into the rectal wall, and rectovaginal septum.

During the last three months of fetal life, smooth muscle tissue exists in definite masses in the subperitoneal pelvic space. The arrangement of the tissue is identical with that in the adult, except that it is much less massive and the direction of the bands varies owing to the difference between the positions of the pelvic organs in fetal and adult life. The smooth muscle tissue is not confined only to the areas immediately surrounding blood vessels and nerves. Most of it is made up of strands entirely independent of these structures. When they are reconstructed and viewed from the superior aspect, the direction of the fibers leads one to consider the tissue as an imperfect "diaphragm" of smooth muscle converging on the uterine cervix. It is true that there are other parts of the tissue which do not enter into the formation of this "diaphragm" but are seen as independent masses of muscle tissue, or as continuations upward of the lateral ligaments (of Mackenrodt) on to the lateral edges of the uterus. The round ligament is, of course, entirely independent.

a. *The mechanization for fixation of the cervix uteri:* The human uterus lies in the physiologic position of antelexion and anteversion. The body of the uterus lies in the direction of the axis of the pelvic inlet, with the fundus directed upward and forward, and the cervix pointing downward and backward. Because of the strategic attachment of its fibers the extravisceral smooth musculature plays an important role in maintaining the uterus in its normal position. The three groups of fibers, anterior, lateral, and posterior, radiating from the uterus to their insertions, help to maintain the cervix at a fixed level and in the direction of the axis of the pelvis. The anterior group, when contracting, makes taut the posterior group fibers; they are its tensors and antagonists; conversely, the posterior groups are the antagonists of the anterior group fibers. Nevertheless, when both groups are contracting under equal tension, they unite in a synchronous effort to promote fixation. The lateral fibers in the broad ligament as a group are attached slightly anterior to the central axis of the uterus, and help to maintain the uterine body anterior to the axis of the pelvis. The upper fibers of the group being inserted into the subperitoneal connective tissue, help to hold the uterus suspended on the connective tissue scaffolding. The lower fibers because of their insertion into the arcus tendineus, unite with the upper fibers in suspending the area



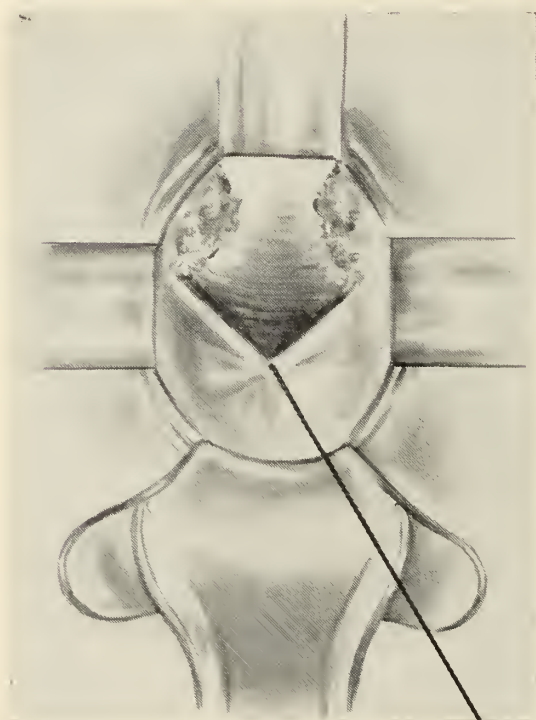


FIGURE 1

Appearance following urethrocele, cystocele and vaginal hysterectomy in case of prolapse of the culdesac of Douglas. The base of the culdesac of Douglas contains the structures of the posterior plane of the upper pelvic diaphragm.

of the internal os at a fixed level. The posterior fibers are the auxiliaries of the utero-sacral ligaments.

Over a period of several decades the concept of the upper pelvic floor as fixing apparatus for the pelvic organs has been slowly emerging in the literature. A simple yet classic description was that of Chipman<sup>5</sup> in 1918:

As you all know, prolapsus uteri is simply a hernia, a hernia through the fibrous diaphragm of the true pelvic floor—a sacropubic hernia.

The rectum, at its junction with the anal canal, also pierces this pelvic diaphragm, but its whole support is not derived therefrom, as it has also definite and firm attachments to the sacrum and the coccyx. The proof of this is witnessed from the fact that in this sacropubic hernia the whole rectum does not descend, for in rectocele it is only its less strongly supported anterior wall that bulges downward and forward through the rectovaginal portion of the pelvic diaphragm while its posterior wall remains attached. In the majority of cases it yields in this segmental way to the downward pull of the previously prolapsed uterus and vagina.

Now, this fibrous diaphragm or hammock is the true pelvic floor, for it is this that furnishes the essential support to the pelvic viscera. The mesial junction of its two halves is somewhat interrupted by both bladder and uterus, and naturally it is this interruption that constitutes its weakest part. So it is that in any diastasis of this pelvic floor it is these organs which are first and chiefly concerned.

A short description of this fibrous hammock or diaphragm—the true pelvic floor—is requisite to identify the effective or essential supports of the uterus, and to cor-

rect understanding of the treatment or its prolapse. This is the best done, I think, by considering in vertical section the soft parts that close the pelvic outlet, lying as these do between the peritoneal cavity and the skin surface below. These soft parts may be roughly divided into three layers, named from above as follows:

(1) The serous layer of the peritoneum, with its underlying and included unstriated muscular fiber and cellular tissue—the so-called peritoneal ligaments. Beneath this is (2) the fibrofascial hammock, diaphragm or sling of the true pelvic floor, with its fibrous parametrium and paravesical tissue and strong vessel sheaths. And again beneath (3) the sphincteric muscles that surround and control the several outlets of urethra, vagina, and rectum. The levator ani muscles belong in this group, for their chief function is that of a powerful sphincter of the rectum at its junction with the anal canal, while to a lesser degree they perform the same service to the urethra and vagina.

These are the three layers that intervene between the peritoneal cavity above and the skin and subcutaneous tissue below. The one is serous, the second is fascial and fibrous and the third is chiefly muscular. Of these three there is only one that will bear steady and continuous strain, and this is the fibrofascial hammock or diaphragm, the true pelvic floor. From their very nature the peritoneal ligaments above can afford but weak and accessory support, and the same may be said of the muscular layer below.

Seeing that this fibrous and fascial hammock constitutes the true pelvic floor it of necessity provides the effective or essential support to both uterus and bladder. It takes origin from the pelvic wall on either side, having special attachments to the back of the pubis in front and the ischial spine and sacral ala behind and extends downward and inward to the midline to merge with its fellow of the opposite side. In its course it grasps firmly the neck of the bladder, the upper part of the vagina and the uterus at the level of the internal os. Behind the cervix it descends as a thin fibrous sheet between the vagina and rectum to become attached to the perineal body; this is a rectovaginal portion which forms the anterior boundary of the rectal channel and lends its support to the anterior rectal wall. This complete fibrous sling grasps, surrounds and supports these several organs; it is a single definite structure, and though to its several parts various names have been given, these are of small importance.

Furthermore, this fibrofascial hammock, as it passes inward from the pelvic wall, becomes thickened and laminated and includes the fibrous parametric and paravesical tissue. The blood vessels lie here with their strong fibrous sheaths and also the nerves and lymphatics. Accordingly each lateral half of this structure is wedge-shaped, with its base firmly set about the under surface of the bladder, the summit of the vagina, and the cervix. Structurally, the aponeurosis, covering the upper surface of the levator ani muscle, belongs to it; what with arteries and veins it is richly vascular and the ureter passes through its midst.

This pelvic diaphragm, fibrous, fascial and vascular, is then the essential effective support. It includes the true ligaments of the bladder and the vesico-uterine parametric tissue belongs to it, the so-called "bladder pillars," which have been so admirably demonstrated by Robert Frank. Its attachments to the uterus and vagina are sometimes called the "cardinal ligaments," or by Mackenrodt the "ligamenta transversa collis." The part of it, however, which affords the chief support to the uterus and the vagina is the utero-ischial or utero-ischiosacral portion, the true uterosacral ligaments. This portion of the pelvic diaphragm is unusually strong, for it is reinforced by the sheaths of the uterine vessels, and when the individual is upright its fibers are almost vertical, as they suspend the uterus and the vagina. These true uterosacral ligaments are wholly distinct from the peritoneal folds of Douglas, the genitosacral folds, with which they are frequently confounded.

It will be observed that the uterus is slung at the level of its isthmus in the very midst of this supporting tissue, for this tissue everywhere surrounds it. The vessel

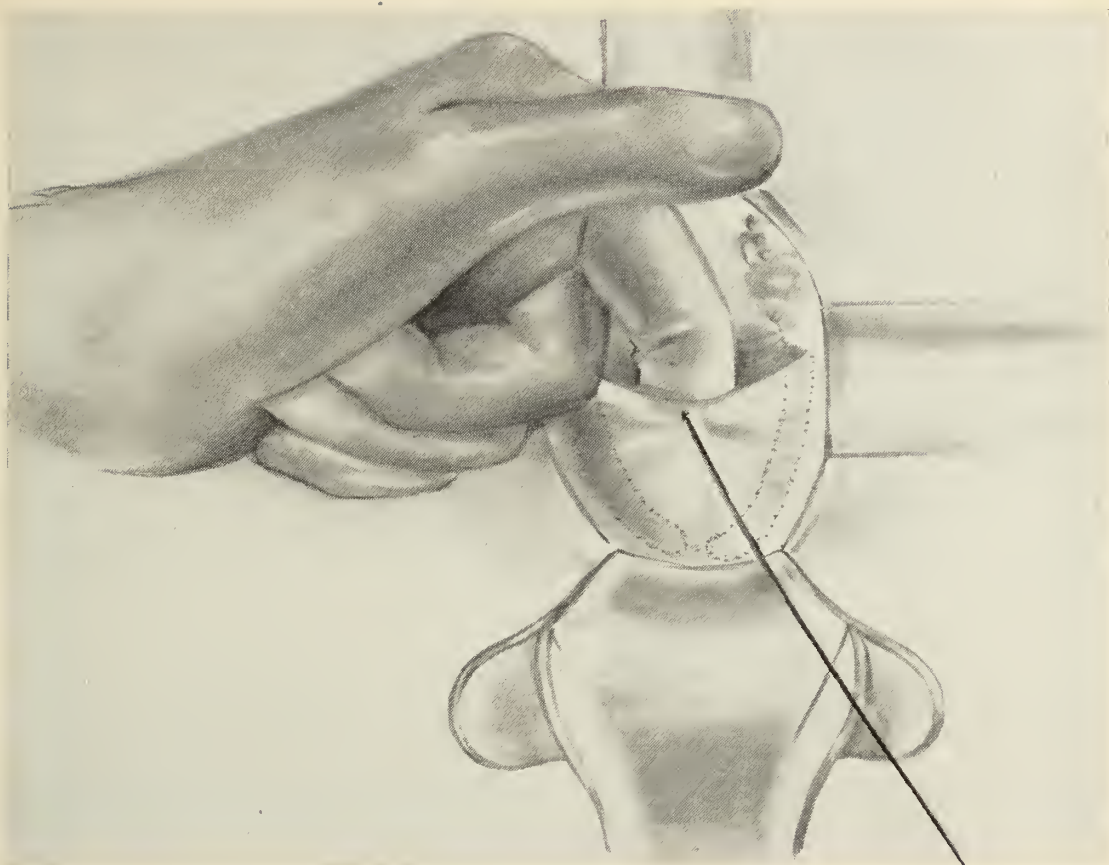


FIGURE 2

The culdesac pouch is palpated and the rectal wall pushed back. The dotted outline shows the location of the curved Kelly forceps noted in figure 3. It is often of advantage to grasp the tissue through-and-through by a tenaculum at the point of proposed junction of the end of the forceps.

sheaths, and even the vessels themselves, add greatly to the supporting strength. The uterus is fixed at this level. Above this level the so-called peritoneal ligaments merely act as the guy-ropes or stays to steady it in its seat. These are the broad ligaments on either side, the utero-vesical folds and the specialized ovarian ligaments (or round ligaments) in front and behind the folds of Douglas. Hence for the uterine body there is permitted a wide range of movement within normal limits, and it is accordingly free to expand and retract during pregnancy and labor. These peritoneal folds are morphologically of the nature of a mesentery, and there is no doubt that though on occasion they may exercise a certain supporting strength, at the very most this is merely secondary.

The same contention as to accessory support may be made for the muscular layer below. The chief function of this muscular layer is sphincteric, and as we know muscular tissue, wherever found, cannot long withstand steady and continuous strain. Its chief strength is but intermittent and is expressed here as a contractile effort during coughing, sneezing or defecation. The urogenital diaphragm or triangular ligament, belongs to this group.

This special perineal fascia locks in place the openings of the urethra and the vagina, gives aponeurotic attachment to the sphincteric muscles and adds its strength to their accessory support. To its base is anchored the central point of the perineal body, and it maintains the forward direction of the vaginal axis.

As regards the uterus then its essential support is the fibrofascial sling of the pelvic floor. Its accessory supports are, above, its peritoneal folds and below the muscular layer of the pelvic outlet. The uterus may be considered as sitting in a swing, the seat of the swing at the level of the isthmus. The body above, clothed in peritoneum, is steadied in this seat by the peritoneal folds or guy-ropes. The cervix, however, projects below the level

of this seat and hangs within the vaginal vault. Still below this cervix, and closing the pelvic outlet, is the muscular layer of the pelvic floor. This affords some additional support, a foot-rest, as it were, to the uterine cervix. The analogy is that of a person seated in a swing, steadied therein above and with a definite foot-rest below.

The above are very shortly the anatomic facts of the situation. I think it is clear that a prolapse of the uterus or bladder is an inevitable sequence to any weakness in or injury to the fibrofascial hammock or diaphragm of the pelvic floor. If the strength of this diaphragm be unimpaired, even a complete tear of the muscular layer below will not of itself result in prolapse. Whereas on the other hand, if this diaphragm be overstretched, torn or dislocated a prolapse is inevitable, for the accessory supports cannot save it.

As we have seen, in all essentials, cystocele, prolapse uteri and rectocele are herniae; a sliding hernia, or a *hernie par glissement*, perhaps best describes it. The diaphragm of the true pelvic floor has yielded. Its two halves have been pushed or torn asunder, and between them the bladder, uterus and anterior rectal wall are dislocated and descend. These organs slide downward and in their descent gradually invert the vagina. I do not forget that this hernia may be more marked in front or behind, the cystocele be more pronounced than the rectocele or, again, that the uterus alone may descend. The injury, however, is always more or less common to them all and the fate of the one is usually shared by the others.

It was further exemplified by Ward<sup>6</sup> in 1939 as follows:

Briefly one may say that the pelvic outlet is closed by the pelvic diaphragm consisting of two layers of muscle and fascia. The superior is composed of the levator ani



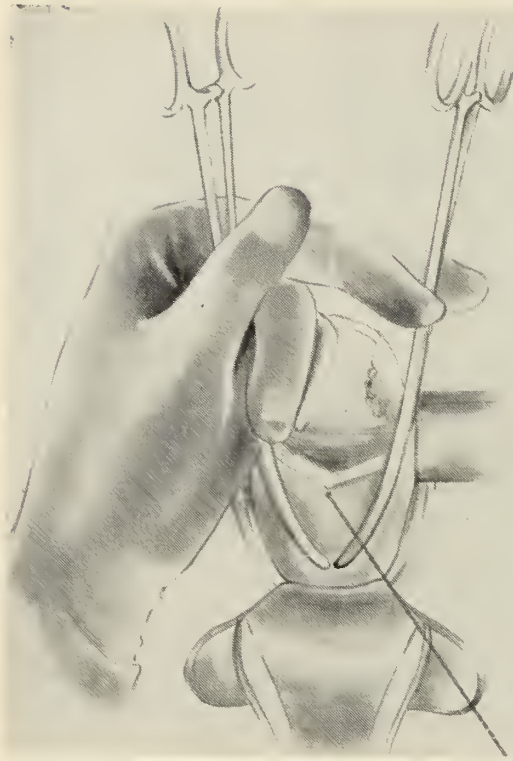


FIGURE 3

The curved Kelly forceps applied at the lateral aspects of the culdesac grasping all three tissues—peritoneum, fascia and excessive vaginal vault wall—being certain at the same time that the rectal wall is not caught.

and the coccygeus muscles and their fasciæ; the inferior includes the muscles of the vulva and anal region with their fascial attachments and the triangular ligament. Above this pelvic diaphragm there is a third plane of fibromuscular and connective tissue which was designated by Polk<sup>7</sup> as the "upper pelvic floor." This upper pelvic floor may be described as consisting of three portions, all radiating from the isthmus of the uterus and the upper part of the vagina to the pelvic walls. They are, first, the pubocervical ligaments, a fascial membrane extending from the pubis to the cervix at the level of its junction with the fundus. These fibers blend with the fasciæ propriæ of the bladder and the vagina and are fused into the anterior portion of the cardinal ligaments. Second, the cardinal ligaments situated in the base of the broad ligaments below the uterine artery, also known as the transverse cervical ligaments of Mackenrodt. These strong bands of fibromuscular tissue radiate in a fan-shaped manner to the lateral and posterior pelvic walls. Fused with them at a lower level are similar structures attached and fixing the lateral vaginal fornices and upper vaginal wall. The third portion, consisting of the uterosacral ligaments, divides to encircle the rectum, and extends from the cervix backward to be attached to the sacrum in the region of the third and fourth sacral vertebra. At the cervical junction of these three divisions of this fibromuscular diaphragm, these fibers are intimately fused together and thus all form a part of the structure which is the real support of the uterus, bladder and vaginal vault. This has been aptly termed the "holding apparatus" by Frank. Bonney has described it as the "pelvic shelf," and stresses the fact that these structures form more or less a continuous sheet. This upper pelvic floor fixes and holds the cervix in position. It may be likened to an elastic hammock or sling; it is the main support of the uterus.

The lower pelvic floor or diaphragm consisting of the two muscular and fascial layers previously referred to, has been described by Frank as the supporting apparatus. It is accessory in its action to the "holding appara-

tus" above, and in response to voluntary contraction, acts as a shock absorber of excess stress, the result of increased abdominal pressure. Its tonicity also gives a continual support to the upper pelvic floor.

The upper portions of the broad ligaments, with the enclosed round ligaments, have little or no actual supporting function, but merely steady the fundus. In other words, they act as guy-ropes, limiting the backward movement of the uterus. Chipman has aptly compared this support mechanism to a "person sitting in a swing, steadied therein above by the hands grasping the ropes and with a definite foot rest below."

Curtis<sup>8</sup> and associates have recently made exacting dissection of the female pelvis and in regard to the uterine supports and state:

*The cardinal or transverse cervical ligaments* (of Mackenrodt), comprising the contents of the bases of the broad ligaments, are the chief supports of the uterus and upper part of the vagina. They integrate on each side posteriorly with the corresponding uterosacral ligaments and continuous inferiorly and medially with the cervicovaginal sheath of the endopelvic fascia. The literature is replete with references to these ligaments, but no adequate detailed description of their structure is available. Mackenrodt's original account, correct in many essentials, is not fully substantiated by our anatomic dissections. These supports, situated on either side of the cervix and upper vagina, are composed of connective tissue and muscle fibers together with the structures they encase. Each ligament spreads out lateralward, fan-shaped, housing between its two layers the nerves of Frankenhauser's plexus, the uterine artery, and the massive parametrial veins. In fact, the blood vessels, especially the veins, make up the chief bulk of the ligament.

### *Causes for Hernias Through the Female Caudal Wall*

The etiologic factors responsible for the herniations may be presented under three categories: (1) Childbirth injury; (2) stresses and strains, and (3) constitutional individuality.

1. Childbirth injuries result to some extent in all labors. Certainly the upper pelvic diaphragm is subject to damage much more than is the lower pelvic floor. The presence of muscle fibers in the fascial layers supporting the bladder, uterus and upper part of the rectum allows them to dilate to the extent of 9 or 10 cm. diameter necessary for the passage of the full-term fetus without marked injury to the average woman. In any series of clinical cases of prolapse or herniation previous labors have been of importance. Many patients date the onset with a particular labor. In this respect any deviation from normal labor, such as forceps delivery too early done or deep lacerations poorly repaired, are of



significance. Turner<sup>9</sup> says the history of long continued cervical lacerations or erosions with the attendant infection and congestion and subinvolution occur in many instances. Dippel<sup>10</sup> showed that "parity with associated birth trauma is almost always an accompaniment of descensus or prolapse." He concludes that "hard physical labor, especially when resumed shortly after delivery, is probably an important factor in the subsequent appearance of descensus or prolapse." In the series here reported all were in multiparas.

2. Stresses and strains have long been known to be a factor. The original Manchester operation devised 70 years or more ago was in one of the first industrialized communities. In the present series the condition was noted especially in women who care for small children, who manage grocery stores and those who are required to care for paralyzed invalids. Chronic constipation, asthma, ascites and abdominal tumors or cysts are known to be factors in some instances.

3. Constitutional type of the individual is an etiologic factor of definite but little appreciated importance. There is frequently a history of such conditions in the family—mother or aunts. In this regard Hines and Piper<sup>11</sup> reported an illuminating instance in identical twins. The size of the pelvic cavity as an etiologic agent has received practically no attention. However, Dippel in a roentgen study of 20 cases found the pelvic cavity in all of normal size or larger than average. McKelvey<sup>12</sup> x-rayed 30 patients and found large pelvises in all. Several writers, notably McKelvey<sup>12</sup> and Everett<sup>13</sup>, have noted the infrequency of prolapse in Negro women. Some of this may be due to the fact that their pelvises, on the average, are somewhat smaller than those of white women. In an unpublished study we have found that the mean average anteroposterior diameter of the inlet is 1 cm. less than in white

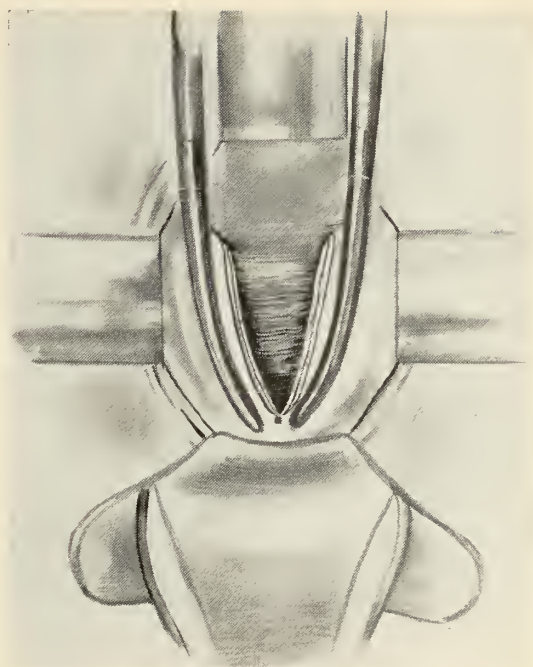


FIGURE 4

The triangular portion has been excised by Mayo curved scissors.

women. On the other hand those of a small series of Mexican women from El Paso, Texas, averaged 1 cm. larger than those of white women. Jesson L. Stowe<sup>14</sup> who loaned the x-ray films for them reports that they are not much subject to prolapse, cystocele and rectocele.

Laws<sup>15</sup> directed attention to the association of spina bifida occulta and weakness of the pelvic floor and relaxation of the pelvic sphincters. He reviewed the literature and reported several instances. This association must be considered in all cases of prolapse but especially in nulliparous patients. There has been reported from the University Hospital, Augusta<sup>16, 17</sup>, two instances of prolapse of the uterus in the newborn both associated with extensive spina bifida and club feet. In the literature are upwards of 30 similar cases.

Sturmdorf<sup>18</sup> directed attention to the position of the pelvic organs as being due in part to backward rotation of the pelvis in some women resulting in the "gorilla type" of posture of Dickinson and Truslow.<sup>19</sup>

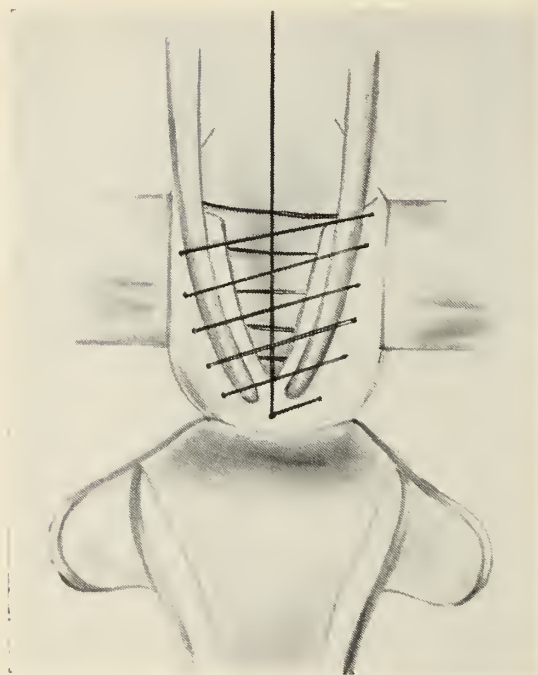


FIGURE 5

A tight ligature with double gut suture is placed and tied around the tissue beyond the ends of the forceps; the loose end is held centrally while the long end is sutured in spiral fashion around the forceps from side-to-side.

### *Anatomy and Pathology*

Herniation of the female caudal wall includes one or more of the following structures: urinary bladder, cervix with or without the fundus, culdesac of Douglas, and part or all of the rectum. Retroversion of the uterus probably puts added strain upon the supporting diaphragm and may be the first sign of subsequent herniation. Besides the structures of the culdesac of Douglas other portions of the abdominal peritoneum may rarely herniate laterally or anteriorly to the uterus. A cursory study reveals that most of these hernias appear through a weakness in the upper pelvic diaphragm, and not because of weakness of the lower sphincteric diaphragm. Wide separation of the levator ani muscles may result in vaginal or lower rectal herniation. Urethrocele and cystocele may occur as a result of weakness or injury of the dense musculofascial layer between the vagina and bladder, so well described by Bissell<sup>20 21</sup>. Goff<sup>22</sup>, Sears<sup>23 24</sup> and others.

### *Surgical Repair*

Based on the extensive studies made in the past by anatomists and gynecologists, the surgical principles of repair should be clear; namely, closure of the defect in the upper pelvic diaphragm together with restoration of the supporting vaginal tube, especially in its upper portion. Architectural reinforcement may be effected by repair of the sphincteric diaphragm, the main portion of which is the levator ani group of muscles. The retention of the uterus or any part of it is not at all necessary.

The earliest surgical attack of the problem was the LeFort operation of partial colpocleisis. This recognized the supporting effect of the vaginal tube into which or through which most of the herniated structures passed. In this operation a rigid vaginal tube was reconstructed by the simple process of obliterating the vaginal canal. This reconstructed the bladder and rectal supports by making them into one. By its very nature of precluding sexual intercourse it must be reserved for widows or unmarried women long past the menopause.

Among the first scientific operations was the one at Manchester devised by Donald and continued by Fothergill and Shaw. This recognized the importance of support produced by the cardinal ligaments (Mackenrodt) and mobilized and plicated them anterior to the cervix. In addition, it repaired the defect in the anterior vaginal tube. In this operation the uterus was retained although the cervix was often partially amputated and it was applicable to younger women in whom future childbearing was an advantage.

The unsurgical Watkins interposition operation attacked a part of the defect only—that in the anterior portion of the upper diaphragm. It should be limited to (1) those with large cystocele, (2) to those past the menopause, and (3) to those with atrophic



but otherwise normal cervix and fundus which are already high in place. In these rare instances the inverted atrophic fundus acts as a rigid anterior vaginal wall in supporting the prolapsed urinary bladder.

Vaginal hysterectomy *per se* is of no value in curing herniation. This operation, however, exposes the ends of the cardinal ligaments which may then be sutured together as in the Mayo operation, or plicated and attached to the vaginal vault as is done by many gynecologists. When associated with restoration of the rigid anterior vaginal wall by cystocele operation and by perineorrhaphy closure of the defects in the sphincteric diaphragm, fairly good clinical results are obtained. An analysis of the few failures reveals that the defect lies in the posterior segment of the upper diaphragm and this allows a herniation of the culdesac of Douglas with resulting enterocele. Phaneuf<sup>25</sup> in 1940 stated: "The overlooking of a hernia of the culdesac of Douglas is responsible for most recurrences in the posterior vaginal segment, when an otherwise adequate operation has been done. The bladder and uterus will usually stay up, the perineum will give good support but the large hernia rolling over the well-repaired perineum will be responsible for the recurrence."

Besides Moschowitz<sup>26</sup> one of the first to attack this problem was G. G. Ward<sup>27</sup>, who dissected out the peritoneal lining of the redundant pouch of Douglas and excised it after high ligation. In 1922 he stated:

My interest in this subject has been aroused during the last four years as a result of encountering partially satisfactory results in several cases of prolapse of the uterus in which I had employed the Mayo technic of vaginal hysterectomy and the interposing of the united broad ligaments under the bladder. While the cure of the prolapsed bladder and anterior vaginal wall was all that could be desired, a well marked enterocele protruded from the vulva orifice in these cases, necessitating a second operation to establish a cure. A careful study of the culdesac of Douglas in all cases of prolapse of the uterus during this period has convinced me that an enterocele, either beginning or well developed, is present in far larger proportion of these cases than we have realized, and that it is necessary to recognize and meet this condition with an appropriate technic at the time of the oper-

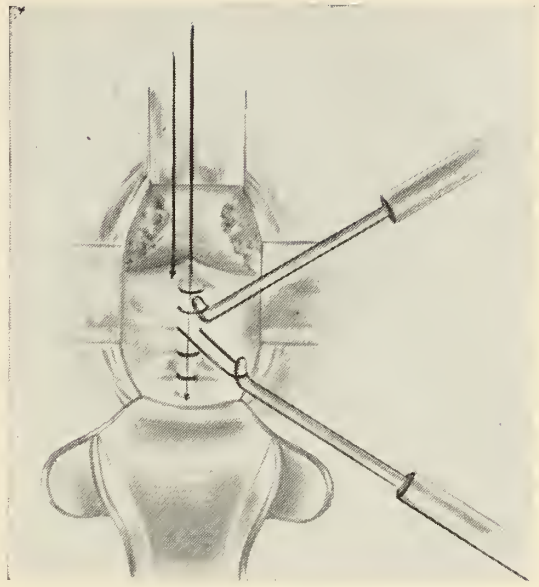


FIGURE 6

After removal of the forceps the coils of spiral double sutures are pulled tight by dissecting hooks as illustrated. The ends of the suture are held taut.

ation for the cure of the prolapse of the uterus, in order to prevent a certain proportion of partially satisfactory results. I am also convinced that enterocele (of the lesser types) without prolapse of the uterus is more frequent than we formerly believed, and that it is frequently overlooked and classed as a rectocele, both conditions being frequently present. The differential diagnosis with the finger in the rectum is easily made but not often employed. In the past four years at Woman's Hospital, I have had occasion to operate on fourteen patients having abnormally deep culdesacs, with and without an associated uterine prolapse. Of these fourteen patients, three required a second operation because of my failure to appreciate the importance of investigating the depth of the culdesac at the time of the original operation. Zuckerkandl, Freund and others have shown that the culdesac of Douglas normally extends to the levators in the fetus and that its depth gradually decreases from this time until puberty, when it reaches the level of the second or third sacral vertebra. Daniel Jones of Boston has pointed out that a deep culdesac is an important factor in favoring or producing prolapse of the uterus, and he states that downward pressure made in the culdesac against the posterior vaginal wall will demonstrate a strong pull on the uterus. He advocates the closure of the culdesac on this account. Jones believes that this accounts for uterine prolapse in virgins, as these patients always have a deep posterior culdesac of congenital type.

The value of the technic of Moschowitz for the cure of prolapse of the rectum lies in the fact that the closure of the Douglas pouch throws the weight of the intestines forward onto the bladder, symphysis and anterior abdominal wall, with the patient in the erect position; while a deep culdesac allows the weight of the intestines and the pressure to come on the anterior rectal and posterior vaginal wall.

In view of my experience and in the light of the foregoing statements, it is now my custom to obliterate the pouch of Douglas by the vaginal or abdominal route, as part of the technic in all cases of operation for prolapse of the uterus. In cases of enterocele without uterine prolapse, the posterior vaginal wall is opened in the middle for its entire length, and the peritoneal sac of Douglas is dissected free up to the uterosacral ligaments. A sponge stick in the rectum serves as a useful guide. The sac is ligated and cut off, and the uterosacral ligaments



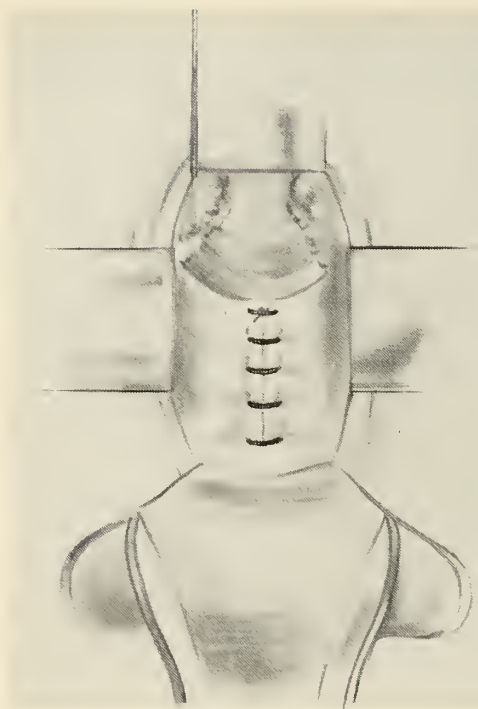


FIGURE 7

When the suture ends are tied the incision is hemostatic and shortened as illustrated, completing the culdesac excision operation. The broad ligament stumps are sutured to the vaginal vault and the incisions are closed as in any vaginal hysterectomy. High perineorrhaphy completes the repair of the floor.

are united with interrupted Pagenstecher linen sutures as close to the rectum as possible. The denuded space is obliterated with continuous buried catgut sutures, and the vagina is closed in the usual manner. In cases associated with prolapse of the uterus, in which the Mayo technic is employed, the obliteration of the culdesac is easily accomplished after the uterus has been cut away from the broad ligaments. A finger in the pouch demonstrates its exact location and a median vaginal incision exposes the sac so that it can easily be dissected out, up to the region of the uterosacral ligaments, where it is closed by a suture and cut off. The uterosacral ligaments are then united with linen sutures and the denuded space closed with continuous buried catgut sutures. After the culdesac is obliterated in this manner, the broad ligaments are sutured together and interposed beneath the bladder in the usual way, and a perineorrhaphy completes the operation. The obliteration of the culdesac can be accomplished in a similar manner from above if an abdominal operation is indicated.

In 1925 Phaneuf<sup>28</sup> wrote an excellent review of the early literature on the subject. In 1945 Danforth<sup>29</sup> reported and illustrated a modified Ward operation for hernia of the culdesac. It appears from his illustrations that it is somewhat similar to the one herein described.

*Technic of excision of the structures forming the culdesac of Douglas.* With the vaginal vault opened into the peritoneal cavity after hysterectomy or through a postcolpot-

omy incision in those instances in which the uterus is to be retained the redundant tissues, peritoneum, fascia and vaginal vault are grasped by the operator's fingers placed in the culdesac. The rectum is pushed back and a tenaculum is placed close to it through the peritoneum, fascia and vaginal wall. This then allows visualization of a triangular section composed of the three structures, the anterior boundary being the cut surface. On each side is then placed a curved Kelly forceps with the convex surface of the forceps toward the lateral wall on each side of the triangle. The points of these forceps meet at the site of the tissue grasped by the tenaculum. The triangular section of tissue composed of peritoneum fascia and vaginal wall is then excised by scissors. The two exposed sides of the culdesac, fascia and vaginal vault are then firmly sutured together using a double gut suture as follows: Beginning at the apex of the triangle and above the forceps' points, the tissue is ligated and a tight knot placed. The short end of the sutures is held and the suturing is then continued from side-to-side back of each clamp until the continuous spiral suture reaches the anterior surface of the culdesac. With both sutures held taut the forceps are removed and, using special blunt tenaculum hooks, each loop is tightened. Further plication and hemostasis are obtained by tying together the two ends of the doubled suture.

This operation excises the peritoneal sac as well as the excessive fascia of the post-portion of the upper pelvic diaphragm and the redundant vaginal vault wall. Thereby the peritoneal sac is obliterated, the concavity of the upper pelvic diaphragm is reduced and, when sutured, the uterosacral ligaments are approximated and the diaphragm is elevated. The vaginal vault is narrowed without decreasing the length of the vagina. The vaginal vault is held up because it is firmly attached to the elevated upper pelvic dia-

phragm. The time required for this relatively simple operation is 10 to 15 minutes and it may be used advantageously in association with any other procedure, including vaginal hysterectomy, Manchester operation, etc., including anterior and posterior perinorrhaphy.

The potential dangers lie in injury to the rectum or in postoperative hemorrhage, neither of which occurred in the 44 cases presented. The rectal wall is easily palpated and pushed back. The use of double gut permits tight closure of the suture line without danger of breaking the suture material.

Thirty-eight of the patients were white women; six were Negro women. The age-range of the two races was similar. All were multiparous, averaging approximately four children each; the least number recorded was one and the greatest 16. Five patients were in the third decade of life; 20 in the fourth, 11 in the fifth, 7 in the sixth, and 1 in the seventh.

*Report of 44 operations with discussion:* These were done over a period of nine years, almost one-half of them in the past two years. The follow-up period, therefore, is not long enough to be conclusive. However, critical study of any individual following any operation for hernia through the female pelvis reveals structural weakness which appears within the convalescence period of two months.

In 44 instances this operation was done in association with vaginal hysterectomy in all of the patients. There was also repair of cystocele and urethrocele in all except four. In addition, high posterior colporrhaphy was done in all except six instances. The high incidence of vaginal hysterectomy in this group of women, some of whom were rather youthful, was due to the presence of long untreated chronic cervicitis with broad

TABLE 1—*Age groups, number in each group and number of operations for each group of patients with hernias of caudal wall.*

Age Groups	Number of Patients	Number of Operations By Decades
21 - 25.....	2	5
26 - 30.....	3	
31 - 35.....	14	20
36 - 40.....	6	
41 - 45.....	6	11
46 - 50.....	5	
51 - 55.....	3	7
56 - 60.....	4	
61 - 65.....		1
66 - 70.....	1	

ligament infection with the attendant debility. All of these were subjected to prolonged conservative therapy before operation was advised. The period of such treatment extended in each case to more than three months and usually one year. Such therapy included cervical cauterizations and hot douches taken while in the recumbent position.

In no instance was hysterectomy done if more children were wanted or were thought advisable. Many patients were in low income groups whose daily work necessitated cure by an effective method if possible.

The culdesac operation was done in all cases of vaginal hysterectomy in which there was redundancy of tissue so that the lowermost depression extended nearly to the introitus. This occurred in approximately one-sixth of the patients subjected to vaginal hysterectomy during the period of time covered.

The follow-up studies were not as complete as desired. However, the hospital is the only one in the neighborhood and a search of the records reveals no recurrence of enterocele in any patient. The follow-up on the staff patients who numbered 21 was less complete than upon the private patients, who numbered 23, 13 of whom were from the practice of W. J. Thurmond. In these

13 patients, whom he has followed well, there was reported good perineal support in 13. high vaginal vault with no vaginal shortening in 11, and slight shortening of the vagina in 2. In the other private patients, numbering 10, restitution to the nulliparous type occurred in 10 so that the vagina was well supported with a diameter to admit two fingers to a depth of 10 cm. in the majority.

In no case studied was the vagina less than 7.5 cm. long. In no case was there bulging downward of the vaginal vault, which in all cases was narrowed to the normal nulliparous type. Most of them were symptom-free which was a factor in failure to secure adequate follow-up studies, especially in the staff patients.

The average postoperative stay in the hospital was twelve days. The convalescence in all but two was quite uneventful. One staff patient, a white woman aged 33, developed thrombophlebitis of the right leg, approximately two weeks postoperatively. Recovery was rapid after the use of paravertebral block.

One staff patient, a Negro woman aged 59, the mother of nine children and with complete prolapse of long standing, developed extensive pyelonephritis and died in coma on the ninth day postoperatively. Post-mortem examination was denied. This was the only fatality, giving a mortality rate of 2.3.

#### BIBLIOGRAPHY

1. Barrett, C. W.: Hernias of Pelvic Floor Versus Prolapse of Uterus and/or Rectum; Problem of Nomenclature, Pathology and Treatment, J. Internat. Coll. Surgeons, 8: 242, 1945.
2. Sears, N. P.: Pelvic Fascia; Histologic Structure of Planes of Tissue Used in the Fascia Overlapping Operation, Am. J. Obst. & Gynec. 29: 834, 1935.
3. Mengert, W. F.: Mechanics of Uterine Support and Position, Am. J. Obst. & Gynec. 31: 775, 1936.
4. Power, R. M. H.: Unstriated Muscle Fiber of Female Pelvis, Am. J. Obst. & Gynec. 38: 27, 1939.
5. Chipman, W.: Prolapsus Uteri, Gynecological Transactions 43: 171, 1918.
6. Ward, G. G.: Uterine Displacements, South. Surgeon 8: 307, 1939.
7. Polk, W. M.: Suprapubic Operation Upon the Pelvic Floor for Prolapse of the Uterus, Am. J. Obst. & Gynec. 60: 418, 1909.
8. Curtis, A. H.: A Textbook of Gynecology fifth ed., Philadelphia, W. B. Saunders Company, 1946.
9. Turner, J. W.: Uterus. Prolapse. Etiologic Factors, South. M. J. 35: 643, 1942.
10. Dippel, A. L.: Relationship to Pelvic Size and Morphology and to Certain Obstetric and Economic Factors, Minnesota Med. 27: 627, 1944.
11. Hines, E. A., Jr., and Piper, M. C.: Identical Twins With Essential Hypertension and Prolapse of the Uterus, Proc. Staff Meet. Mayo Clin. 12: 815, 1937.
12. Turner, J. W.: Etiologic Factors in Prolapse of the Uterus, Discussion by J. L. McKelvey, South. M. J. 35: 643, 1942.
13. Everett, H. S.: End-results with the Watkins' Interposition Operation, Surg., Gynec. & Obstet. 61: 403, 1935.
14. Stowe, Jesson L., Personal Communication.
15. Laws, G. W.: Prolapse—Consideration of Lumbosacral Spina Bifida Occulta with Special Reference to Prolapse, Am. J. Obst. & Gynec. 33: 126, 1937.
16. Torpin, R.: Prolapsus Uteri Associated with Spina Bifida and Clubfeet in Newborn Infants, Am. J. Obst. & Gynec. 43: 892, 1942.
17. Torpin, R. and Burpee, C. M.: Prolapsus Uteri Associated with Spina Bifida and Clubfeet in Newborn Infants, Am. J. Dis. Child. 66: 627, 1944.
18. Sturmdorf, Arnold: Congenital and Acquired Retropositions of the Uterus: Their Differentiation and Relative Significance, Am. J. Obst. & Dis. of Women and Children, 74: 386-687, 1916.
19. Dickinson, R. L., and Truslow, W.: Averages in Attitude and Trunk Development in Women and their Relation to Pain, J. A. M. A. 59: 2128, 1912.
20. Bissell, D.: A Vaginal Hysterectomy Technic for the Cure of Prolapse, etc. Gynecological Transactions 43: 157, 1918.
21. Bissell, D.: Fascia Lapping, etc. Surg., Gynec. & Obst. 48: 549, 1929.
22. Goff, B. H.: An Evaluation of the Bissell Operation for Uterine Prolapse, Surg., Gynec. & Obst. 57: 762, 1933.
23. Sears, N. P.: Further Studies of the Fascial Planes Surrounding the Vagina, Am. J. Obst. & Gynec. 25: 484, 1933.
24. Sears, N. P.: Further Studies of the Fascial Planes Surrounding the Vagina, Am. J. Obst. & Gynec. 26: 614, 1933.
25. Phaneuf, L. E.: Choice of Operation for Uterine Prolapse, Am. J. Surg. 48: 266, 1940.
26. Moschowitz, A. V.: The Pathogenesis, Anatomy, and Cure of the Prolapse of the Rectum, Surg., Gynec. & Obst. 15: 7, 1912.
27. Ward, G. G.: Technic of Repair of Enterocoele (Posterior Vaginal Hernia) and Rectocoele, J. A. M. A. 79: 709, 1922.
28. Phaneuf, L. E.: Prolapse of the Culdesac of Douglas or Posterior Vaginal Enterocoele, Am. J. Obst. & Gynec. 9: 507, 1925.
29. Danforth, W. C.: Vaginal Hysterectomy in Management, Am. J. Obst. & Gynec. 50: 376, 1945.

#### REPORT OF AN UNUSUAL CASE OF FOREIGN BODY

HENRY C. FRECH, M. D.  
*Savannah*

Mrs. S. E., white female, aged 24, was seen on February 19, 1943. Chief complaint: pain in left hip and swelling of the left buttock on menstruation, accompanied by a foul smelling vaginal discharge. The onset of symptoms was about two years ago. She had been operated upon in February 1942 for this same trouble with no benefit. At her operation bilateral salpingectomy and appendectomy were performed. She also noticed that she had a temperature of 101 to 102 degrees with each menstrual period. Family history was essentially negative. Past medical history consisted of the usual childhood diseases.

Menses began at the age of 15, every 28 days, 10 days' duration, used 24 pads. She suffered no pain except soreness and tenderness in the region of the left buttock. Last menstrual period was January 31, 1943.

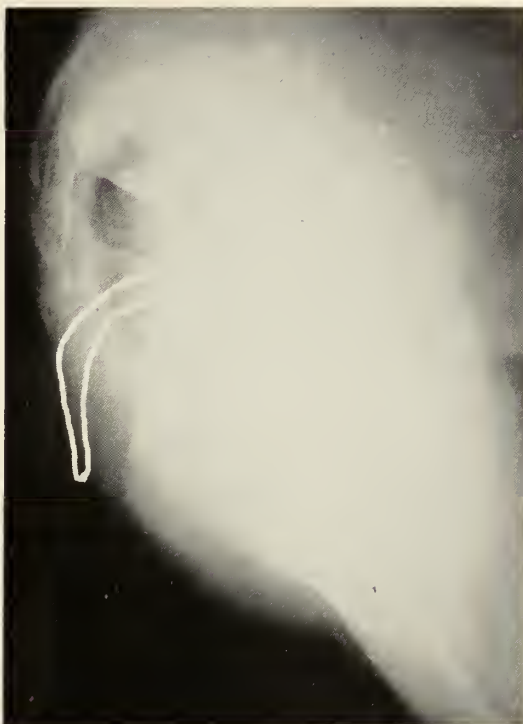
She had lost 15 pounds in weight, had no appetite and was nauseated, especially at menses. The left hip became so sore she was unable to walk or sit at all during menses. She had been married twice. The first ended in a divorce within two months. She had been married to the second husband since 1941. She denied having any pregnancies or miscarriages.

Pelvic examination and a general physical examination were negative at this time except for a low middle-line abdominal scar which was well healed. There was no ulcer on the cervix and it was a normal nulliparous cervix.





**FIGURE 1.**  
Film showing tube-like foreign body in the pelvis.



**FIGURE 3.**  
Note outline of tube-like foreign body.



**FIGURE 2.**  
Film showing tube-like foreign body in the pelvis. Same as in figure 1 but slightly intensified by change of position.



**FIGURE 4.**  
Photograph of specimen removed at operation.

It was suggested that the patient return at her next period while symptoms and signs were present.

The patient returned February 25; at this time she could hardly walk, left leg was drawn up. There was a definite area of swelling in region of the left tuberosity of the ischium, which was tender on palpation. Temperature 102 degrees. Pelvic examination was again negative. An x-ray examination of the hip was suggested.

X-ray findings: Anteroposterior and lateral films of the pelvic region show a semi-opaque body, which has the appearance of a section of rubber tubing, which is approximately five inches in length and three-eighths of an inch in diameter. This tubing in the anteroposterior view extends from the midline of the lower segment of the sacrum over to the left just above the obturator foramen. In the lateral view the tube seems to extend in a curve from the region of the rectum posteriorly and downwards, with the distal end apparently in the soft tissue of the buttocks.

The patient was shown the films, and asked to explain the presence of the tube. She then confessed she had been pregnant by her first husband, and had had a criminal abortion performed; that the doctor inserted the catheter by means of a long uterine dressing forceps, without the aid of a speculum. She then stated she aborted, ran high fever, and had chills for several days afterwards. Several physicians had seen her, and suggested hospitalization which she refused. She then admitted that all of the present symptoms dated from this time.

She was operated upon on February 27, 1943. An incision was made into the left ischiorectal fossa and the catheter was removed.

Thorough search of the left lateral fornix with a Sim's speculum and a probe revealed no fistulous opening. The fossa was packed with vaseline gauze and allowed to heal by granulation. She was dismissed as cured on March 24, 1943. She returned on July 2, 1945 for a trichomonas infection and stated she had not had any more trouble. She was again examined on July 1, 1946 as a routine pelvic check-up and was still well.

#### AMERICAN ACADEMY OF DERMATOLOGY AND SYPHILOLOGY TO MEET

The sixth annual meeting of the American Academy of Dermatology and Syphilology will be held in Chicago from Saturday, December 6 through Thursday December 11, it is announced by Dr. Earl D. Osborne, secretary-treasurer of the Academy, 471 Delaware Ave., Buffalo, N. Y.

The principal sessions will be held at the Palmer House, with special courses in histopathology and mycology scheduled for Saturday and Sunday, December 6 and 7, at the Medical Schools of the University of Illinois and Northwestern University. Teaching clinics will be held at the University of Illinois College of Medicine in Chicago on the afternoons of December 8, 9, and 10.

Extensive scientific and technical exhibits will be set up in connection with the meeting. Dr. Marcus R. Caro of Chicago heads the committee on the scientific exhibits, and Dr. Clyde L. Cummer of Cleveland is in charge of the technical exhibits.

Special courses in histopathology, mycology, x-ray and radium therapy, bacteriology of the skin, mucous membrane lesions, industrial dermatoses, specific granulomata, and dermatoscleroses will be held under leaders in these various fields.

Subjects to be discussed in symposia will include: physiology and chemistry of the skin; physical and radiation therapy; cutaneous allergy; syphilis; pharmaceutical therapeutics; and diagnostic methods in dermatology. Other features will be a round table discussion on dermatopathology and a panel on management of skin diseases.

## STERILITY IN THE MALE

CHARLES L. PRINCE, M. D.

*Savannah*

Great progress has been made in recent years in the understanding of human fertility and sterility. In spite of intensive study and research, however, there is still a great deal that is poorly understood or entirely unknown. It is well recognized now that the problem presented by a barren marriage can be a very complex one, and that its evaluation and solution may require an extended investigation of both partners, involving many specialized clinical and laboratory procedures. The importance of the role played by the male in sterile marriages has been recognized only during the past few years. Previously, every male was considered fertile unless he was frankly impotent, and merely to suggest to a young, virile male that he consult a physician for an examination of the semen was almost an insult. During the past ten years studies by various investigators have indicated the surprising fact that the male is the responsible factor in 30 to 50 per cent of childless marriages. Nowadays no competent gynecologist will dream of going ahead with an extensive examination of the female without first making sure that the husband's potential fertility is good. Aside from clear-cut male or female infertility, the studies of Meaker indicate that there are frequently multiple causative factors in sterile marriages. In 78 of 100 cases he found the responsibility to be divided between husband and wife.

In evaluating the male role in sterile matings, probably greater strides have been made in the technic of examination of the

seminal fluid, and of the interpretation of these findings than in anything else. In spite of numerous articles which have appeared on the subject during the past decade, I fear that this most important procedure is rarely done and interpreted correctly, in actual practice. The usual examination of the seminal fluid consists of a single observation of a drop of the fluid under the microscope to ascertain the presence or absence of spermatozoa. Infertile patients have frequently told me of such examinations and have told that they were normal because "wrigglers" were present under the cover slip. These patients are frequently shown these "wrigglers" in triumph by the physician, and the mere glimpse of a single active spermatozoa usually has convinced the patient that he is capable of reproduction. I wish to stress the point that it is absolutely impossible, on the basis of such an examination alone, to diagnose a semen specimen as being normal, or to recognize various borderline deviations from the normal. It is in just these cases where abnormalities are not apparent at a glance that it is most important to be able to detect them, in order either to absolve or implicate the male factor, and thus be able to treat the problem intelligently.

When spermatozoa were first recognized by Anton Von Leeuwenhoek more than 200 years ago, the discovery created a furor in the scientific world. Numerous other naturalists hastened to confirm this observation, and one group made a truly remarkable contribution to the study of sperm morphology. They identified in each "animalcule", to use their own term, the presence of a complete human body in miniature, and drew pictures to prove it. But interest soon waned, and spermatozoa were allowed to live in comparative peace and quiet until the early part of the present

century. Since then there has been a rapidly increasing curiosity as to the most intimate details of their life: not only their population, vitality, and structure, but also the physical and chemical features of their environment, and even their metabolic rate!

Male fertility or infertility can be adjudged properly only after a careful and painstaking examination of the seminal fluid, after the methods described by Moench, Meaker, Vose, Hotchkiss, and others, and I shall in a moment discuss briefly the accepted normal standards of today. There are certain difficulties in the way of such standardization. Chief of these is the fact that in the same individual seminal values commonly vary from time to time; in some cases this happens rapidly, to a marked degree, and without appreciable cause. To illustrate this point quite strikingly, an experience of a colleague may be quoted: The semen of Mr. A was found to be deficient in every detail. Although the specimen had been obtained under ideal conditions, the physician thought it best to examine a second one, which gave the same results as the first. No treatment was carried out, but five months later the wife became pregnant. Mr. A, recalling my colleague's gloomy prognosis, was strongly suspicious of infidelity. A domestic tragedy was happily averted when another examination showed semen that was distinctly good. The child, a boy now six years old, bears so striking a resemblance to Mr. A that there can be no doubt about the paternity. Thus the seminal value may change spontaneously for the better; likewise, it may change for the worse. The latter phenomenon is illustrated by numerous instances in which a husband has already begotten a child, but finds himself unable to repeat the achievement.



The *method of collection* of the semen specimen for examination is important. Specimens obtained by use of a condom are unreliable, and should not be used, as it has been well shown that certain substances present in condoms interfere with the motility of the sperm. Specimens obtained by intercourse with withdrawal and ejaculation into a clean glass container are quite satisfactory. However, care must be used in obtaining these specimens, as MacLeod and Hotchkiss have demonstrated that approximately 75 per cent of the spermatozoa are contained in the first 40 per cent of the ejaculate. Thus, loss of even a drop or so of the first portion of the ejaculate may have a marked effect on the sperm count. Specimens are most satisfactory when obtained by masturbation with ejaculation into a sterile glass container, although this is frequently distasteful to the patient and sometimes refused by him. It should also be mentioned that the optimum temperature for preserving the vigor of specimens is not that of the body as was formerly believed but 8 to 20 degrees centigrade. The *physical appearance* of the freshly ejaculated semen is that of a thick whitish opalescent mixture of gelatinous character. Abnormally, it may contain fresh or old blood, or may be yellowish from the presence of pus.

*Viscosity.* Immediately after ejaculation the semen is extremely thick and viscid, and soon begins to liquefy and take on a more homogenous appearance, usually within 15 to 30 minutes. In cases of azoospermia and marked oligozoospermia, the fluid is often thin and watery, even immediately after ejaculation. Increased viscosity may have a deterrent effect on sperm motility, but it is very

doubtful whether this factor alone is of importance in influencing fertility.

*Volume* is normally 3 to 3.5 cc. Volume by itself is not important except in those rare cases where it is extremely reduced. Male ego is a peculiar thing. Patients frequently deliver specimens to the office saying that they have lost a portion, when actually they have not. The layman believes that the ejaculate should be relatively enormous in amount, at least 10 cc., and when they see only about 3 cc. in the specimen tube, they feel that they are deficient in some way and must make some sort of apology.

*Sperm Count.* The technic of making a sperm count is quite simple. The specimen to be counted should be at least  $1\frac{1}{2}$  hour old, as prior to this the viscosity is such that a satisfactory count is impossible. The diluting fluid is a matter of preference. I have found that 1:3300 azochloramid solution works very well, quickly destroying the motility of the sperm. Many prefer a mixture of phenol and soda bicarbonate. The count is made using an ordinary white blood cell pipette, and the red blood cell counting chamber. The number of sperm in five diagonal squares is counted, and to the total is added 6 ciphers, giving the sperm count per cubic centimeter. This procedure is repeated in the opposite chamber, and the two are averaged. If there is more than 10 per cent disagreement between the two chambers the count is repeated. The normal average sperm count varies from 100,000,000 to 150,000,000 per cc. Meaker in his experience found that no pregnancy occurred where the sperm count was below 60,000,000, and Macomber and Saunders have only four cases in 244 where pregnancies occurred with less than 60,000,000. This count level has been generally accepted as the lower level of fertility in the male in spite of the fact

that Hotchkiss et al found that 25 per cent of their group of known fertility had sperm counts below that level. It is noteworthy that defects in the semen specimen other than the sperm count increase rapidly as the counts fall below 100,000,000 per cc. In this respect, the selection of a 60 million per cc. count as the lower level of fertility has significance inasmuch as at and below this level defects in motility and morphology appear more striking in inverse proportion to the count.

*Motility.* The question of evaluating sperm motility, however important, is still somewhat controversial, and to a great extent is subject to personal opinion and observation. These specimens should be judged when at least 30 minutes old, but not later than 3 hours after ejaculation. Hotchkiss defines active motility as a progressive space gaining movement across the microscopic field. All graduations of the type of activity are seen in every specimen, and may range from 0 to 4. Zero, of course, signifies complete absence of motion. Grade 1 indicates a feeble jerking or twitching movement, with very little or no element of space gaining or progression. Other types of activity are progressively graded up to 4. The percentage of motile sperm is estimated by counting the number of sperm in a definite portion of the field, for a definite length of time—usually 30 seconds. The percentage of motile cells is easily computed by assigning the number of motile cells as the numerator and the total cells as denominator. A normal specimen is usually considered to show at least 70 per cent motile cells with grade 3 to 4 activity.

*Morphology.* It is not possible to make a reliable appraisal of sperm morphology by attempting to estimate the frequency of abnormally-shaped cells in a field of motile spermatozoa. In order to obtain informa-

tion that is of any value, it is necessary to prepare a smear of the seminal fluid, apply an adequate stain, and then study it carefully and do an accurate differential count. Interpretation of sperm morphology requires experience and still needs much clarification. Everyone agrees that two headed sperm are abnormal, and likewise, tapering, narrow or sickle heads are considered pathologic. Changes in the narrow middle piece and tail are often encountered, but their true significance is unknown. In fertile specimens there is usually a striking similarity in size, shape and staining characteristics. The opposite, or marked variation in size, shape and staining properties is characteristic of infertile specimens, and is usually accompanied by a high percentage of abnormal forms. By studying smears from any normal and abnormal seminal fluids, one can learn to recognize the typical normal adult spermatozoan and its normal variations. Typically, its head is oval or somewhat pyriform in shape, and is characterized by a clear or weakly staining anterior half and a darkly staining chromatin mass which occupies the posterior half. The tail is about 10 times the length of the head, and between the head and the tail there is a tapering or cylindrical intermediate area, thicker than the tail which is variously termed the body, middle piece or neck. Minor variations from this characteristic appearance should not be considered abnormal. Sperm morphology may be considered as being within normal limits if at least 75 per cent spermatozoa, in a differential count of at least 300 cells, fall within this normal group.

The conditions responsible for seminal abnormality are numerous and may be divided into two large groups: (1) conditions which affect the cells of the seminiferous tubules, preventing the testis from produc-

ing normal spermatozoa, and (2) conditions which interfere with the safe passage of the sperm from the testis to the external urethral meatus. In the first group, the condition may be temporary or permanent, quite frequently the former. The second group of conditions are usually permanent, unless corrected.

Among the conditions affecting spermatogenesis unfavorably may be listed poor general health; nutritional disturbances, including vitamin deficiencies may also be responsible, as may lack of exercise and faulty hygiene. Acute febrile illnesses such as pneumonia, typhoid fever, diphtheria, etc. may cause infertility. This may be temporary, as the result of a toxic effect, or hematogenous infection may be set up in the testis, not clinically recognizable, which results in permanent sterility. The incidence of sterility is abnormally high among patients with syphilis and malaria. Sterility may result from alcoholism, morphine addiction or metallic poisoning. Drugs, both over-dosage and unusual sensitiveness, may adversely affect spermatogenesis. Chronic anemia frequently impairs the manufacture of sperm. The toxins elaborated by chronic focal infections may be responsible for infertility. Mumps orchitis frequently destroys the spermatogenic power of the testis. Poor circulation and decreased oxygenation resulting from varicocele may impair the functional activity of the testis. Chronic degenerative diseases, such as diabetes and nephritis, adversely affect the growth of the seminiferous epithelium. Endocrinological conditions frequently result in sterility, and it seems that sub-function of any major gland may be responsible for the condition. Hypothyroidism is an extremely frequent cause of lowered fertility. Hypogonadism invariably results in sterility, as does bilateral cryptorchidism. Pituitary and adrenal diseases and imbalance of the pituitary-

gonad mechanism are not infrequent causes. Obesity and infertility are frequently associated, though they bear no causative relationship to each other—both are symptoms of one and the same underlying disturbance, a subnormal metabolic activity.

Conditions interfering with the safe passage of the sperm through the genital pathways are less numerous. Inflammatory conditions involving epididymides, vasa and ejaculatory ducts may be responsible, and gonorrhea, tuberculosis and non-specific infections are the most frequent offenders. A small caliber urethral stricture may prevent impregnation, by causing the semen to merely dribble out slowly at the time of ejaculation. Likewise, hypospadias may prevent conception, by not allowing the seminal fluid to be deposited in the area adjacent to the cervix.

Testicular biopsy is being used with great frequency at present as an aid to the study of male infertility. It is a very simple procedure, lacks danger, and may be quickly and painlessly carried out in the office. It is particularly valuable in cases of aspermia, as microscopic sections of the testes in such cases frequently show that the testes are manufacturing spermatozoa normally, thus clearly indicating a block of the seminal duct system. In such cases, the point of blockage can frequently be determined, and may be relieved. Obstruction of the seminal duct system occurs with greatest frequency in the globus minor of the epididymis, and can often be by-passed by epididymovasostomy, a surgical procedure in which the lumen of the vas deferens is anastomosed to a window cut in the globus major of the epididymis. Obstruction occurs occasionally in the ejaculatory ducts, and this type of obstruction may sometimes be relieved by probing through the cystoscope. Charny feels that testicular biopsy yields such valuable information in the



study of male infertility that it should be adopted as a routine in the evaluation survey of infertile men, and not employed only in instances of aspermia in order to differentiate the obstructive from the non-obstructive types. I have not gone this far in my own practice, but insist that testicular biopsy be done when the sperm count is below 20,000,000. Biopsy may either supply proof of tubular underdevelopment or completely eliminate endocrinopathy as a cause of the semen deficiency, thus pointing the way to correct therapy. Also, testicular biopsy will immediately place a large number of patients into the "incurable" category, thus eliminating for them the inconvenience and the expense of unproductive treatment. More so than any other portion of the examination, however, the interpretation of the testicular specimen requires much experience, and careful study of knowledge already gained by previous investigators.

The development of knowledge concerning the diagnosis of male sterility has far outstripped the knowledge of its treatment. It should be made clear that we have as yet no therapeutic agent which can be counted upon to consistently stimulate spermatogenesis. Treatment of a number of the conditions mentioned above is obvious, and frequently results in marked improvement of the sperm count. Thus, the administration of thyroid in patients with lowered basal metabolic rates often results in striking improvement. The removal of chronic focal infections may result in return of the seminal fluid to normal. Anemia, if present, should be corrected. Faulty hygiene should be eliminated and an abundance of outdoor exercise should be insisted upon. Alcohol and tobacco should be forbidden. Dietary deficiencies should be remedied, and vitamin intake increased. In brief, everything possible should be done to improve the patient's general physical condition. Vita-

mins, preferably of the multiple variety, should be given in large quantity. Their administration is more for a general than for any specific effect. Actually, it has never been proved that deficiency of any vitamin influences fertility. It is true that vitamin E is useful in the treatment of habitual abortion, and for a while it was thought to influence spermatogenesis, but there is no scientific evidence to prove this fact. There are a number of enthusiastic reports in the literature concerning the use of the gonadotropic principle in the treatment of male sterility. Potent gonadotropins may be obtained from three sources: the urine of pregnant women, pregnant mare's serum, and from the pituitary glands of animals. Actually these preparations seem to have more effect upon the interstitial cells of the testis than upon the cells of the seminiferous tubules. Personal experience does not confirm the high percentage of success obtained with the use of this substance as reported in recent literature. However, I have seen an occasional case show definite and marked improvement while under chorionic gonadotropin therapy. It is in no way to be considered specific, and its use at present constitutes more of a therapeutic test than anything else. The products now employed in endocrine therapy will undoubtedly be improved and concentrated in the future, so that we may eventually obtain adequate stimulation in those instances in which a deficiency exists. I should like to stress, however, that the indiscriminate administration of endocrine preparations to *all* men with semen deficiencies should be condemned, lest the poor results serve to discredit the use of these agents altogether. And now, a brief word concerning testosterone, the male sex hormone. From personal experience, I know that it is not infrequently used in the treatment of male infertility. Available studies have shown conclusively that testosterone

causes a marked reduction in the sperm count, and sections of testes indicate that it induces tubular degeneration. In a very rare case of severe hypogonadism it has been used with success in bringing about pregnancy, and this condition is the only indication for its use in the light of present knowledge. It is obvious, therefore, that any success in improving spermatogenesis is usually not the result of the use of some specific therapeutic agent; it is more likely the result of improvement in general health and environment, or the elimination of some concurrent pathologic change. Although the prognosis in cases of male infertility is slowly but steadily improving, it is still far from hopeful in most cases.

#### HELP FOR THE SPASTIC CHILD

Children with cerebral palsy are frequently referred to as "spastic" children. Cerebral means pertaining to the brain and palsy means a form of paralysis or lack of control over muscles, whatever the cause. Therefore, the "spastic" child is one who, because of some damage to nerve centers in the brain, suffers loss of control over motion or sensation in some part of the body, according to a Health Talk issued by the Educational Committee of the Illinois State Medical Society.

Injury to the brain may have been present at birth or may occur in the birth process of the child, or perhaps the damage to the brain may have been inflicted through disease or injury during the early years. Unfortunately, little can be done about permanent damage to the tissues of the brain.

Much can be done, however, to train the children who have been so crippled.

There are three general types of children afflicted with cerebral palsy: athetoid, ataxic and spastic. The child with athetosis makes random involuntary motions, usually with some muscle tension. The ataxic child has difficulty with maintaining balance, and the spastic child performs motions slowly and frequently inaccurately. Sometimes the mind itself is affected.

A determination of the intelligence of the child is important. Unless the child has sufficient intelligence to gain from an improvement in his condition, the undertaking of a long and costly orthopedic program is futile.

When the intelligence has been evaluated, a program of patience and understanding should be incorporated with that of training and education.

Recently the National Society for Crippled Children and Adults inaugurated a division for cerebral palsy to coordinate the activities of the many groups that are being formed by parents and other interested groups throughout the country.

Palsied children display various degrees of mental ability. In such patients, the degree is difficult to evaluate.

Because of this difficulty in evaluating the various degrees of mental ability in children with cerebral palsy, it was, until recently, generally believed that all these children were mentally retarded. However, as the program of muscle education and training is patiently adhered to, latent mental ability is frequently surprising as the physical ability improves.

With proper training, many patients can be made much easier to care for in the home or in an institution. Even the severely handicapped can be taught to do many things for themselves. And the mental retardation can often be corrected with appreciable results. According to one authority, educational problems can be solved for many and general appearance can be improved. Many can be made completely independent and many will to all practical purposes become normal.

#### VETERANS' NEWS

Forty-nine veteran-patients, paralyzed from the waist down, competed in a wheelchair table tennis championship tournament in the Veterans Administration hospital at Hines, Ill.

Trophies awarded to the winners were donated by the American Red Cross and other voluntary service organizations.

\* \* \*

The St. Louis Cardinals baseball club invited patients in the Veterans Administration hospital at Jefferson Barracks, Mo., to attend one game each week throughout the past season.

\* \* \*

A "Pinky Higgins" booster club, named after the manager of the professional baseball team in Roanoke, Va., was formed this summer by patients in the Veterans Administration hospital at Roanoke.

Advantages of members included free admission to all home games and baseballs autographed by Higgins for the club's officials.

\* \* \*

A water basketball team has been formed by patients, paralyzed from the waist down, in the Veterans Administration hospital at Van Nuys, Cal. The patients use inflated inner tubes to keep them afloat.

\* \* \*

Bedridden patients in the Veterans Administration hospital at Fayetteville, Ark., are keeping up with the latest in sports because of a daily sports broadcast beamed to their bedsides over the hospital's radio network.

Material for the broadcasts, compiled by a veteran-patient, includes baseball scores, developments on the local and national sports scene, and a daily "sport-light," or biographical sketch of a local patient formerly active in sports.

\* \* \*

Human interest stories, furnished by patients in the Veterans Administration hospital at Atlanta, Ga., are used regularly by the hospital chaplain as illustrative material for his daily morning devotional services.

## WOMAN'S AUXILIARY TO THE MEDICAL ASSOCIATION OF GEORGIA

### AUXILIARY NEWS

The primary and most important aim of State and County Publicity Chairmen is to cooperate with and promote all programs of our State President and her committee chairmen. Our aim is to serve the individual auxiliary members in such a way as to promote and further the programs of each and every auxiliary. Our duty is to conscientiously report the news of every county unit, thereby solidifying all county auxiliaries. It is our purpose to bring together every State and county committee in our publications so that they may serve the medical profession in any way that they see fit.

The publicity chairman of each county auxiliary should send in reports of meetings, programs, projects, activities and functions by the fifteenth of each month. We must bring to our members every item of interest and of education that pertains to the medical profession. We must educate ourselves so that we can pass on information to our friends and neighbors. We must promote Health Education and Health Legislation.

#### *Organization*

The ideal of any organization is "All for one and one for all." With this motto for our goal we can best serve our auxiliaries and the state in which we reside.

Do we fully appreciate the honor our husbands have attained in belonging to the noble profession of medicine? Many do, some do not, but we all should. By being active members of the Medical Auxiliary we stand shoulder to shoulder with our mate and help advance the cause of good health, and safe legislation pertaining to health and education. Thus we can lessen his load to the betterment of humanity.

Why do we need to organize?

1. Organization stands for strength.
  2. Strength for power.
  3. Power for influence.
  4. Influence brings results and expansion.
- Therefore we must develop our strength, gird for power, exert our influence and expand our membership.

As a nation is no stronger than its citizens, so an organization is no stronger than its individual members. A wide awake, alert member will lure and attract other members. A magnetic local group will inspire other local groups and soon the State will be marching forward and become known for its good works. This is our goal for 1947-1948.

Let faith overcome discouragement, for never has the need been greater than now. Sinister murmurings are heard which may encroach upon the honorable profession of medicine. As wives we should be fired with zeal, patriotism and patient understanding to overcome any mistaken policy that society might hastily adopt.

The field is ripe for intelligent thinking and if it isn't used some bad mistakes will be made which will not benefit human society.

These are some of the fundamental reasons why we should enlarge our organization until every county in the State has an active progressive auxiliary. It is from these small inspired groups that our voices can make themselves heard not only in Georgia but throughout our nation. A grave responsibility rests upon each member. Let each pledge to her ownself, "I shall not fail."

MRS. S. A. ANDERSON.



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## SPOTLIGHT ON OTOTOLOGY

Publication of the details of an operation for improving the hearing of persons deaf due to otosclerosis has been one of the most important causes for the increased interest in otology in the twentieth century. This article was published by Dr. Julius Lempert of New York City in 1938. The idea of such an operation was not original with Dr. Lempert, since attempts at surgical relief for otosclerotic deafness had been made in Sweden and in France thirty and twenty years previously, but Lempert first accomplished a one-stage operation, and first made a success of the procedure.

This operation does not cure all types of deafness. Indeed, it only *improves* one type—OTOSCLEROSIS—which is but one kind of non-inflammatory *conduction* deafness. For *nerve* deafness, the other great classification of impaired hearing, there is yet no medical or surgical relief, and it is necessary to resort to mechanical means, such as the hearing aid. If the individual is completely nerve deaf, there is no means by which he may be made to hear.

Fully as important as this revolutionary treatment for otosclerosis, which is the operation known as the *fenestration* or *window operation*, is the fact that the stimulus to explore the field of otology has brought the specialty before the spotlight. It has produced a large question mark in such as the glib diagnosis of "collapsed tube", probably the most common diagnostic error in the field of deafness. A patient presenting himself with the complaint of deafness is now more readily examined by the scien-

tific methods of the audiometer and near correct tuning forks, in order that there be at least a differentiation of the type of hearing difficulty that he has.

While the diagnosis of "collapsed tube" is being relegated to the past, it must be stated that there are certain cases in which there is *obstruction* of the Eustachian tube, usually caused by inflammation or lymphoid hyperplasia. Almost always this results in changes in the middle ear which can be diagnosed by careful ear examination; in fact, a careful and complete ear examination will usually reveal to the physician whether the hard of hearing patient has nerve or conduction deafness, and in the event of the latter, whether it is inflammatory or non-inflammatory.

In order to achieve the intricacies of the fenestration operation, it is necessary to make such a study of the anatomy and physiology of the temporal bone as has seldom been routine in general aural training. Because of this minute training, the aurist begins to realize the futility of the conservative treatment of certain types of chronic otitis media and chronic mastoiditis, and he therefore resorts to surgery before the sufferer's ear has reached the stage of serious complication. In the event there is hearing present which has been masked by the infection, it may be possible to accomplish an operation which will give increased acuity. This is a long step forward when one considers how recently the only thing done for deafness due to inflammation has been the removal of tonsils and adenoids. Adenoids may be responsible for certain cases of inflammatory or obstructive deafness in the young, rarely in the adult, and tonsils, *per se*, almost never are the cause of deafness.

Otologic study has further shown how easily the auditory nerve endings may be devitalized and removed by the mastoid

route, for the relief of Meniere's disease. This operation may be used instead of the cranial approach for sectioning the eighth cranial nerve, and it is being favored by many neurosurgeons since it is done without any exposure of brain or brain coverings, and the results for the patient are the same.

Otology embraces otoneurology which aids in the diagnosis of such conditions as tumor of the petrosa; meatal eighth nerve tumor; cerebellopontine angle tumor; epidural, subdural, and brain abscess originating from infection of the ear; lateral sinus thrombosis of auditory origin; infections of the tip of the petrosa, which have always been accompanied by high mortality.

On the other hand, the pursuance of otology has not decreased interest in psychologic deafness, but instead has given more basis for this diagnosis.

Finally, the otologist is brought to realize his greater responsibility to the deaf, and much progress is being made in providing closer supervision of the patient who needs a hearing aid, and of the patient who needs lip and speech training.

Even so, it would seem that otology is yet in its infancy.

LESTER A. BROWN, M.D.

## DIABETES IS MORE PREVALENT IN U. S. THAN COMMONLY SUPPOSED

*Survey In One Typical American Community  
Reveals Three Unsuspected Cases For  
Every Four Cases Already Known*

It is known that diabetes is increasing rapidly in the United States, but estimates as to its prevalence vary a great deal, since most of them are based on known cases of the disease. Recently the United States Public Health Service decided to test a typical American community, Oxford, Mass., for evidences of diabetes among its 4,983 inhabitants. More than 70 per cent of the population was tested—and two per cent of those tested had the disease! Furthermore, three hitherto unknown and unsuspected cases

of diabetes were found for every four which had already been diagnosed. Less than one half of these "new" cases were in an early or even a mild stage of the disease.

"Diabetes is much more prevalent than is commonly supposed," was the obvious conclusion, "with large numbers of unrecognized cases in every community."

The report on this study appears in the September 27 issue of *The Journal of the American Medical Association*, in an article by Hugh L. C. Wilkerson, M.D., and Leo P. Krall, M.D., of the United States Public Health Service in Boston. The authors point to the need for the wider application of simple, effective tests which will make it possible to discover and to treat early cases of diabetes before further progression and, possibly, dangerous complications have set in.

Diabetes mellitus is a chronic condition in which the pancreas does not produce enough insulin for the diabetic patient to get full benefit from his food. Much of this, particularly the carbohydrate, changes to sugar, which accumulates to excess in the blood and tissues and passes out of the body through the kidneys. Without proper treatment diabetes is a rapidly progressive disease, due to the constant wear and tear on the pancreas. Fifty years ago, before the discovery of insulin, patients lived an average of only three years. Only through the use of insulin and a suitable diet can the condition be controlled. Early diagnosis can therefore be considered a form of preventive medicine, particularly since recent evidence indicates the possibility that early pathologic changes in the pancreas are reversible.

In the Oxford study, specimens of urine and of blood from the veins were obtained from the townspeople about an hour after their midday or evening meals. Of the 4,983 citizens of Oxford, 70.6 per cent received this test. Forty revealed previously diagnosed diabetes, and their test reports were forwarded to their doctors. One hundred ninety-one others showed sugar in the urine, an excess of sugar in the blood, or both conditions, and they received a second test of urine and blood. A total of 39 dextrose tolerance tests were also given to those whose first and second tests didn't agree, whose tests were "borderline," or who showed one abnormal condition without the other.

In this way 30 previously undiagnosed cases of diabetes were found, plus 25 cases of unclassified glycosuria (sugar in the urine) or hyperglycemia (excess sugar in the blood). The patients were notified of an "abnormal condition" and advised to see their own family physicians, who were sent the results of the survey.

An analysis of the data gathered in the course of the survey shows that:

—The ages of the 30 newly discovered diabetic persons varied from 16 to 93, the median age being 55 years. Among the 40 known diabetic persons, the youngest was 19 and the oldest



78. The median age of this second group was 59.5 years.

—There were 31 men and 39 women in the series of cases. The small difference in prevalence between the two sexes was shown by the fact that 1.7 per cent of the men in Oxford were diabetic as compared with 1.3 per cent of the women. "This ratio is different from what might be expected," says the writers, "on the basis of general mortality data showing higher diabetes death rates for women than for men."

—A family history of diabetes was reported more often by diabetic than by nondiabetic persons. For those over 15 years of age, a family history of diabetes was reported by 38.6 per cent of the diabetic persons and 18.2 per cent of the nondiabetic.

—The occurrence of overweight at some period of their lives was reported by most of the diabetic persons: at the time of their maximum weight 20 of the 31 men and 30 of the 39 women had been overweight.

—On careful questioning, all but five of the new patients reported one or more of the symptoms commonly associated with diabetes—cramps or pains in the limbs, excessive thirst, weight loss, excessive urination, intense itching, excessive eating, and fatigue. However, few had recognized the significance of their symptoms.

"For better public health control of the disease," Dr. Wilkerson and Dr. Krall point out, "there must be a greater realization by the public and the members of the medical profession of the prevalence of diabetes and the importance of early diagnosis."

#### IN PROSPERITY DOCTOR GETS SMALLER PART OF AVERAGE MAN'S DOLLAR

The proportion of national income spent for medical services actually has declined since 1940, according to a study made by Frank G. Dickinson, Ph.D., Director of the Bureau of Medical Economic Research of the American Medical Association. That this has happened in spite of the climbing cost of medical care and increased demand for medical services is emphasized in an editorial in the September 27 issue of *The Journal of the American Medical Association*.

The editorial states:

"Costs of medical care as a whole tend to move countercyclically; in a depression such costs comprise a larger share of total consumer expenditures and national income than they do in prosperous times. In a period such as the present, the trend is toward more furious inflation and lower relative expenditures for medical care. This is borne out by Dr. Dickinson's figures—medical care took 4.4 per cent of total consumer expenditures in 1932 and 1933, then the share trended downward to 3.9 per cent in 1946. Necessities always loom more important in depression; luxuries, in prosperity. But all evidence indicates that, case for case, medical care costs more each year, particularly where hospital care is concerned. Thus the decline in relative importance of medical care expenditures has occurred in spite of climbing costs of specific treatments, and an over-all increase in demand for medical services arising from the aging population, the high birth rate and popular education in health which lessens fear of hospitals.

"The declining percentage of income expended on

medical care is parallel by increasing proportions spent on alcoholic beverages, recreation, personal care and jewelry; these items in the budget were selected by Dr. Dickinson not for moral reasons but for comparability in the size of total expenditures.

"Physicians will be interested to learn that their share of the medical care dollar has declined from 32 cents in 1929 to 27 cents in 1945. Part of the decline may have been caused by the absence of those physicians who were in the armed forces during 1945. The gap was filled chiefly by increases in the share of the medical care dollar spent for drugs."

#### A. M. A. WILL HONOR GENERAL PRACTITIONER BY GOLD MEDAL

*New Award for Exceptional Service Will Be Given  
at Cleveland Session in January, 1948*

The Board of Trustees of the American Medical Association has established a special gold medal for a general practitioner who has rendered exceptional service to his community.

The award, similar to the American Medical Association's Distinguished Service Medal which has been given annually since 1938 for scientific advancement in the field of medicine, will be given to a general practitioner for the first time at the supplemental session of the House of Delegates at Cleveland, Ohio, on January 7, 1948.

Designed especially for the physician who has served his people as a family doctor and who does not devote himself exclusively to a specialty in medicine, the award will be known as "the medal of the American Medical Association for exceptional service by a general practitioner."

Nominations for the award may be submitted to the headquarters office of the American Medical Association in Chicago by any state medical association or community service club, such as a Rotary, Kiwanis or Lions Club, Chamber of Commerce, woman's club, community council or similar group. The nomination should include the name and address of the physician, his scholastic record and a record of his medical service in the community.

Nominations will be submitted to the executive committee of the Section on General Practice of Medicine of the American Medical Association, which is composed of Dr. Wingate M. Johnson, Winston-Salem, N. C., Dr. Paul A. Davis, Akron, Ohio, and Dr. E. A. Royston, Los Angeles. This committee will select five leading candidates for nomination for submission to the Board of Trustees, which, in turn, will nominate three of these to the House of Delegates. On the opening day's meeting at the supplemental session the House of Delegates will choose by ballot the general practitioner who will receive the medal.

Dr. E. L. Henderson, Louisville, Ky., chairman of the Board of Trustees, said that "this annual award will stimulate the interest of the medical profession and the American people in the tremendous service by general practitioners all over the country in caring for the sick."

#### PROGRAM OF THE ASSOCIATION

Members whose plans include presentations before the scientific session of the Association in 1948 should begin now their work, and should at the same time communicate with the Committee on Scientific Work, Medical Association of Georgia, 473 Peachtree St., N. E., Atlanta.

Formal acceptances of papers for the 1943 program will be given after due consideration of all requests for places on the program.



## GEORGIA DEPARTMENT OF PUBLIC HEALTH

## BATTEY HOSPITAL

Battey Hospital is operated as an institution to control tuberculosis and thereby it becomes a valuable asset to the medical profession whose aim has always been to control disease and prevent deaths. The purpose of this paper is to outline its policies in more detail so that the physicians of Georgia may better understand how to utilize its services.

The first step in disease control is the dissemination of knowledge. Battey has a full time staff of sixteen physicians with full time departments of pathology, internal medicine, chest roentgenology and thoracic surgery. The heads of these departments have all had the required amount of approved training for certification by their respective boards. There is one resident in thoracic surgery and one resident who rotates from the University Hospital each three months in internal medicine. The staff physicians in tuberculosis have, with two exceptions, had more than ten years full-time experience in the treatment of tuberculosis. The University Medical School at Augusta furnishes us with consultants in roentgenology, internal medicine, orthopedic surgery, urology, obstetrics and gynecology and thoracic surgery who spend at least one day each month at Battey. The hospital is approved by the American Medical Association and the Board of Internal Medicine for residency training in tuberculosis. Three month residencies are offered to the residents in medicine at Augusta and Emory which include x-ray interpretation of the chest, clinical diagnosis of diseases of the chest and instruction in the technic of collapse therapy. Primary emphasis is placed upon diagnosis and choice of treatment but attendance at staff conferences, ward management, attendance at postmortems and laboratory methods of diagnosis are all required to round out the experience of the resident. Each resident is requested to study some special phase of treatment or diagnosis and records are made available for this purpose. Two full years of resident work are offered to men who have had a residency in medicine and wish to complete their training in diseases of the chest. The same training is available to men who wish to do institutional chest work and who have had at least an accredited internship. Only two residencies of this type are offered. A two years residency in thoracic surgery is offered to men who have completed three years' training in an approved general surgical residency. One-half of this residency is spent at the University of Georgia School of Medicine.

Patients are accepted for the diagnosis of chest diseases and for the treatment of pulmonary tuberculosis. An occasional patient is accepted for the treatment of a non-pulmonary form of tuberculosis if it is a form in which streptomycin is indicated. An effort is made to take only

those cases of pulmonary disease which offer a reasonable hope for improvement. Cases may be referred for diagnostic procedures, such as bronchoscopy, phrenic nerve interruptions, pneumonolysis, thoracoplasty or other surgical procedures, provided that application is made for that purpose and the case is accepted by the staff.

Before a patient can be accepted it is necessary that an application be made on regular forms provided for this purpose and that a recent x-ray film be submitted. Forms can always be secured from the local health departments or from Battey Hospital. Unless a case is considered to be an emergency by the staff at Battey he will only be admitted in his regular turn. Cases considered to be emergencies include military tuberculosis, suspected acute tuberculous empyemas, massive effusions and an occasional early pregnancy with unilateral disease which looks favorable for pneumothorax. Hemorrhage cases may be considered if we already have an x-ray film or if the case is having constant small hemoptyses. Most patients having hemorrhages will do better if kept quietly in bed and given barbiturate sedation, vitamin K and atropine in large doses. Very massive hemorrhages may have small doses of narcotics.

The institution is interested only in practicing the highest type of ethical medicine. We are therefore very unhappy when a physician tries to use political influence to have a patient admitted. When we refer a patient to one of our consultants we do not attempt to dictate the form of treatment to be employed and we would like the same consideration when patients are sent to Battey. If the physician feels that a case presents unusual health hazards, he should ask the health officer of his county or the regional health office to investigate the possibility of having the patient admitted purely for isolation. We are admitting a few cases of this type, but to admit any large number would be to build up a long waiting list of treatable cases. At the present time there is a short waiting list for whites and a longer one for colored, due to the fact that we are taking large numbers of cases which would have been considered completely hopeless a few years ago.

A large number of patients come to the hospital with the idea that they will be given collapse therapy and allowed to return home within two or three months. We do not discharge patients upon medical advice until they are on one-half hour's exercise each day. This requires a minimum of ten months for minimal tuberculosis and probably not less than one and one-half to two years for moderately or early far-advanced cases. To do otherwise is to invite disaster for the patient in the form of spreads and progressive disease unless he is under rigid medical supervision at home. If you wish your

patient to return home for treatment at an earlier date, we will allow a discharge with consent but against advice after the patient is allowed to go to the bathroom and to sit up in a chair for two hours each day. Any other form of discharge is against advice and precludes the possibility of the patient again re-entering the hospital at a later date.

Non-tuberculous diseases are admitted for diagnosis on the same basis as tuberculous diseases. If found to need surgical treatment, such as lobectomy or pneumonectomy, they will be referred to either Emory or Augusta. If the application film suggests an early malignancy you may be asked to send your patient directly to one of the two places mentioned above for study. In this way considerable valuable time may be saved for your patient.

While we do not offer postgraduate courses to physicians, we are always glad to have any physician spend some time at the hospital if he will let us know in advance. Staff conferences are held each Tuesday at 2:30 p.m. and visitors are welcomed without needing to give us advance notice. We will be glad to send to any physician a copy of our routine instructions to patients and also our schedule of privileges for patients in different stages of the disease.

We will always appreciate your suggestions and wish for you to have the most in service from this State Institution for your patients.

RUFUS F. PAYNE, M.D., *Superintendent,*  
Battley Hospital.

#### DR. JAMES E. PAULLIN RECEIVES NEW APPOINTMENT

Three new members of the Federal Hospital Council, established last year to assist Surgeon General Thomas Parran of the U. S. Public Health Service in the administration of the hospital survey and construction program, were announced recently by Federal Security Administrator, Oscar R. Ewing.

Nelson Cruikshank, director of social insurance activities of the American Federation of Labor, Washington, was appointed to fill the unexpired term of Clinton S. Golden, also of the A. F. of L. who resigned to serve as labor advisor to the American Mission for Aid to Greece.

Dr. James E. Paullin, Professor of Clinical Medicine, Emory University, Atlanta, and former president of the American Medical Association and American College of Physicians, will succeed Mrs. Evelyn Hicks of Birmingham, Alabama, whose one-year term has expired.

Joseph W. Fichter, Master of the Ohio State Grange, Columbus, Ohio, will succeed Melville G. Broughton, former governor of North Carolina whose appointment has also expired.

#### NEWS ITEMS

Dr. R. V. Brandon, McDonough, announces the removal of his office from College Street to the office building he has purchased on Griffin Street, McDonough, and will share his office with Dr. H. C. Ellis.

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The Coweta County Medical Society, which has been inactive for a number of years, was reorganized August 25. Officers are: Dr. Howard Glover, president, Dr. Joe Parks, vice-president, and Dr. J. H. Arnold, secre-

tary-treasurer. The list of membership includes: Drs. George Kinnard, W. L. Woodroof, W. A. Turner, H. D. Meaders, R. H. McDonald, J. O. St. John, G. W. Hammond, M. F. Cochran, J. H. Arnold, J. W. Parks, Howard Glover, C. C. Elliott, J. B. Peniston, C. R. Barksdale, J. M. Tribble, W. H. Tanner, Bruce Jackson, Charlie Farmer, John M. Snelling, Jr., and James Bryant. The society was first organized in 1882 by Drs. C. D. Smith, R. W. North, A. C. North, A. G. North, T. B. Davis, G. W. Peddy, J. T. Moore, R. L. Y. Long, L. M. McGahee, and J. T. Reese. This society was reorganized in 1888 with Dr. R. L. Y. Long as president and Dr. T. B. Davis as secretary. In 1906 the officers were: Dr. T. J. Jones, president, Dr. T. B. Davis, vice-president, Dr. T. S. Bailey, secretary, and Dr. R. E. Foster, treasurer.

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Dr. M. J. Egan, Savannah, recently attended the clinics and meetings of the American College of Surgeons in New York City. Dr. Egan is a member of the organization.

\* \* \*

The Crawford W. Long Memorial Hospital staff dinner meeting was held in the dining room of the hospital, September 11. The program consisted of the following case reports: "Subacute Bacterial Endocarditis," by Dr. Wm. J. Nelson; "Dysuric Calyx with Calculus Treated by Heminephrectomy," by Dr. Charles Eberhart.

The monthly meeting of the medical section was held in the medical library. Subject: "The Achlorhydria Family Tree of Diseases," round table symposium led by Dr. Joseph C. Massee.

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The Fulton County Medical Society held its monthly dinner meeting at the Academy of Medicine, Atlanta, October 2. Scientific program: "Vesical Neck Obstruction in the Female," case report by Dr. Charles Eberhart; "Rheumatoid Arthritis: Symptomatology in Relation to Pathology," clinical talk by Dr. Max M. Michael, Lawson Veterans Administration Hospital; "Use of Diuretics," paper of the evening, by Dr. Arthur J. Merrill.

\* \* \*

Georgia physicians whom were accepted into fellowship at the Thirty-Third Convocation of the American College of Surgeons held in New York City on September 12 as the final event of the Clinical Congress are Dr. Edgar Boling, Atlanta, Dr. John B. Bowen, Augusta, Dr. Frederick W. Cooper, Jr., Emory, Dr. C. Stedman Glisson, Jr., Atlanta, Dr. H. Walker Jernigan, Atlanta, Dr. John D. Martin, Jr., Atlanta, Dr. William E. Mitchell, Atlanta, Dr. Charles L. Prince, Savannah, Dr. Charles J. Richardson, Jr., Macon, Dr. Louis M. Rosati, Emory, and Dr. William C. Ward, Atlanta.

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Dr. Walter G. Hackett has returned to Rome after serving for three years as resident surgeon at the Bellevue Hospital in New York. He announces the opening of his offices at McCall Hospital, Rome, for the practice of medicine and surgery.

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Dr. W. F. Hamilton and Dr. John W. Remington, of the University of Georgia School of Medicine, Augusta, recently returned from New York City where they spent the summer at Bellevue Hospital working on a collaborative research project between the physiology department of the medical school and the cardiopulmonary unit of Columbia University. The two groups of investigators were comparing the two methods which are available to measure the amount of blood which the heart can discharge per minute time. One of the methods was developed at the University of Georgia School of Medicine and the other at Bellevue Hospital.

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Dr. C. S. Jernigan, Sparta, has rounded out 50 years as a practicing physician in Hancock County. Still hale and hearty, he continues his practice and would easily pass for a man of 50 years old. Dr. Jernigan



learned at the annual session of the American Medical Association, that out of 16,000 physicians registered, only 47 had practiced medicine as long as he has.

\* \* \*

Dr. G. Lombard Kelly, dean of the University of Georgia School of Medicine, Augusta, was recently named to the Advisory Hospital Committee for the State of Georgia. He fills the vacancy left by the death of Dr. C. W. Roberts, Atlanta. The Medical Association of Georgia is entitled to five representatives on this committee, authorized in February of 1946 by the hospital act of the Georgia general assembly.

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Dr. Arthur M. Knight, Jr., Waycross, announces the opening of his offices at 522 Bunn Building, Waycross. Practice limited to internal medicine and diagnosis.

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Dr. Lewis Raymond Lang, Calhoun, recently released from the medical corps of the United States Navy and during the past few months at Lahey Clinic in Boston, has joined the staff of the Johnson-Hall Hospital, Calhoun, for the practice of medicine and surgery.

\* \* \*

Dr. Joseph Lever, formerly of Augusta, announces the opening of his offices on West Haynes Street, Sandersville, for the practice of general medicine. A veteran of the U. S. Navy, Dr. Lever is a graduate of the University of Georgia School of Medicine, Augusta. He served his internship at the Naval Hospital, Charleston, S. C. Following his discharge from the Navy a year ago he held an assistant residency at the University Hospital, Augusta.

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Dr. David S. Mann, a native of Southwest Georgia, announces the opening of his office at 605 North Jefferson Street, Albany, for the practice of general medicine. He received his medical degree from University of Georgia School of Medicine, Augusta, and served in the U. S. Navy during World War II. After being discharged from the Navy he was resident physician at Columbia Hospital, Columbia, S. C., for a year.

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Dr. Ephram L. Prince, Morganton, celebrated his 80th birthday at his home August 9, which is an annual affair in his honor, always having his relatives and a host of friends in attendance. During his sixty years of practice, he has taken care of over 12,000 births. Dr. Prince always makes presentations of gifts to his immediate family on his birthday, this year the gifts being \$25 war bonds.

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Dr. Everett S. Sanderson, professor of public health at the University of Georgia School of Medicine, Augusta, was recently appointed chairman of a local "Stamp Out VD" campaign. Dr. Sanderson is past president of the Augusta-Richmond Tuberculosis Association and is active in many community groups. He spent some time in China recently on an assignment in connection with health programs under UNRRA. Serving with Dr. Sanderson on the Augusta VD committee are Guy H. Merry, Hal R. Powell, and Dr. Abe J. Davis. The Augusta campaign is part of a national drive to finance a greatly expanded program of action against venereal diseases, which are now spreading at an alarming rate throughout the country.

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Dr. J. Clarence Johnson and Dr. McClaren Johnson, Atlanta, announce the association of Dr. Lester C. Crismon for the practice of internal medicine and gastroenterology at 905 Doctors Building, 478 Peachtree Street, N. E., Atlanta.

\* \* \*

The Ninth District Medical Society met at Blue Ridge Lake Inn, Blue Ridge, September 17. Program: Invocation, Rev. W. H. Head, pastor, First Baptist Church, McCaysville; Address of Welcome, Dr. W. E. Burdine, Blue Ridge; Response, Dr. C. B. Lord, Jeffer-

## MALIGNANT DISEASE SEMINAR FOR FLORIDA

An educational seminar covering the entire field of malignant diseases will be held November 12, 13 and 14, 1947 in the auditorium of the Roosevelt Hotel, Jacksonville, Florida. This seminar is under the auspices of the American Cancer Society, Florida Division, and is being staged by the Tumor Clinic of the Duval County Hospital, Jacksonville.

The prime purpose of this meeting is to make available to the physicians of the Southeast the latest knowledge in the diagnosis and management of malignant diseases. The American Cancer Society has devoted considerable effort to lay education, and it is hoped that this seminar will provide the counterpart within the medical profession by bringing the most recent information to the physicians so that they may keep abreast of developments in the various fields of malignant diseases. This is the first meeting of this nature to be held in this part of the country, and an open invitation is extended to all physicians who find it possible to attend.

The tentative roster of speakers and their subjects are as follows:

1. Tumors of the Female Genital Tract—Dr. Emil Novak, Johns Hopkins Hospital, Baltimore.
2. Tumors of the Gastrointestinal Tract—Dr. Samuel Marshall, Lahey Clinic, Boston.
3. Tumors of the Breast—Dr. Frank Adair, Memorial Hospital, New York City.
4. Tumors of the Genito-urinary Tract—Dr. Archie Dean, Memorial Hospital, New York City.
5. Lymphomas and Related Tumors—Dr. Lloyd Craver, Memorial Hospital, New York City.
6. Mixed Tumors—Dr. George Pack, Memorial Hospital, New York City.
7. Tumors of the Head and Neck—Dr. James Elliott Scarborough, Winship Clinic, Emory University Hospital, Atlanta.
8. Tumors of the Chest—Dr. Oscar T. Clagett, Mayo Clinic, Rochester, Minn.
9. Carcinoma Research—Dr. George Shimkin, National Cancer Institute, Bethesda, Md.
10. Tumor Pathology—Dr. Fred Stewart, Memorial Hospital, New York City.

Since the entire field of malignant diseases will be covered during these three days, it is felt that at least some part of the program will be of interest to every practicing physician. It is hoped and urged that every physician in the vicinity will take advantage of this opportunity.

Details of the meeting may be obtained by writing the Tumor Clinic of the Duval County Hospital, 2000 Jefferson Street, Jacksonville 6, Florida.

son; "Coronary Occlusion." Dr. H. P. Harper, Augusta; discussion by Dr. D. C. Simons, Dahlonega; "Relief of Prostatic Obstruction." Dr. Harold McDonald, Atlanta; "Occupational Disease of North Georgia." Dr. T. J. Hicks, McCaysville; discussion by Dr. W. R. Garner, Gainesville. Officers are Dr. Pratt Cheek, Gainesville, president; Dr. Hartwell Joiner, Gainesville, secretary-treasurer.

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Dr. Ruben E. Smith, Lawrenceville, recently released from the medical corps of the U. S. Army, having served as captain, announces the opening of his offices for the practice of medicine in the Chrysler-Plymouth Building, Lawrenceville.

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The Toccoa Clinic, Toccoa, recently was completed and is in operation. X-ray equipment has been installed in the old Simpson mansion which houses the clinic, corner of Alexander and Savannah Streets, Toccoa. The clinic is staffed by Drs. Wm. H. Good, Charles M. Henry, and Arthur G. Singer.

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Dr. S. B. Traylor, Barnesville physician, was recently elected mayor of Barnesville for a two-year term.



### WINTSON-SALEM PHYSICIAN IS NAMED TO A. M. A. BOARD OF TRUSTEES

The Board of Trustees of the American Medical Association has appointed Dr. Wingate M. Johnson, professor of clinical medicine at the Bowman Gray School of Medicine of Wake Forest College, Winston-Salem, N. C., to fill the unexpired term of the late Dr. Charles W. Roberts on the Board of Trustees.

Dr. Roberts, who was 63, passed away in Atlanta last July 28. He was first elected to the Board of Trustees in 1941 and in 1946 he was reelected for a second term of five years.

The A. M. A. Board of Trustees is composed of nine physicians and carries out the policies adopted by the House of Delegates, conducts the business affairs of the Association and has general supervision of the work of the various councils and bureaus. Dr. E. L. Henderson, Louisville, Ky., is chairman of the Board.

Dr. Johnson, who is 62, graduated from Jefferson Medical College, Philadelphia, in 1908 and has practiced in Winston-Salem for many years. He is past president of the North Carolina Medical Association and author of many medical monographs and papers. He is widely known in the field of internal medicine. He also served as president of the American Geriatrics Society.

### ALLERGISTS TO MEET

The American Academy of Allergy will hold its annual convention at Hotel Jefferson, St. Louis, Missouri, December 15-17 inclusive. All physicians interested in allergic problems are cordially invited to attend the sessions as guests of the academy by registering without payment of fee. The program, the scientific and technical exhibits have been arranged to cover a wide variety of conditions where allergic factors may be important. Papers will be presented dealing with the latest methods of diagnosis and treatment as well as the results of investigation and research. Round table conferences will be held on Monday afternoon, December 15, 1947. Advance copies of the program may be obtained by writing to the Chairman on Arrangements, Charles H. Eyermann, M.D., 634 North Grand Boulevard, St. Louis, Missouri.

Dr. Everard A. Wilcox, Augusta, recently released from the medical corps of the U. S. Army, has resumed his practice with offices in the Doctors Building, Augusta. Practice limited to medicine and surgery. Col. Wilcox, a veteran with foreign service in World War I, was called to active duty from the reserves early in 1942. He had service in the Atlantic and European areas and was chief surgeon of the 3,000 bed hospital aboard the Transport Queen Mary, which made many Atlantic crossings, carrying troops overseas and returning the wounded home. He served as chief surgeon in two large Army hospitals, first at Fort Leonard Wood, Missouri, and later at Camp Shanks in New York, where he completed his four years' service.

\* \* \*

Dr. S. D. Work, Jr., Forsyth physician and surgeon, announces the opening of his offices near the Macon and Middle Georgia hospitals, Macon. Practice limited to obstetrics and gynecology. Dr. A. W. Bramblett, Jr., Forsyth, who has been associated with Dr. Work, will continue to occupy their offices and clinic next door to Monroe County Library, Forsyth.

*The JOURNAL would like to record the scientific work of Georgia doctors. It earnestly requests, therefore, that each physician in the State who publishes a contribution in some other medical periodical submit an abstract of the article for these columns.*

### OBITUARY

Dr. Marion Trotti Benson, Sr., aged 70, of 1040 Springdale Road, N. E., a lifelong resident of Atlanta and a prominent physician on the staffs of four hospitals in Atlanta, died September 3, 1947. Born in Atlanta in 1877, the son of the late Charles F. Benson and Elizabeth Trotti Benson, Dr. Benson attended the Atlanta College of Physicians and Surgeons, now incorporated in Emory University School of Medicine, Atlanta, and received his medical degree in 1900. He began the practice of medicine in Atlanta in 1900 and was active in his profession to the end of his life. In 1906 he married Miss Sallie Mae Bagley of Atlanta. His long career, and active participation in the medical world, saw him as a member of many medical organizations. He was a fellow of the American College of Surgeons, and was a former president of the Fulton County Medical Society. He was also a member of the Fifth District Medical Society, the Medical Association of Georgia and the American Medical Association. He served on the staffs of Crawford W. Long Memorial Hospital, St. Joseph Infirmary, Grady Hospital, Georgia Baptist Hospital. In addition he was a deacon in the Druid Hills Baptist Church, and a past president of the Emory University Alumni Association. Surviving are his wife, Mrs. Sallie Mae Bagley Benson, four sons, Dr. M. T. Benson, Jr., Dr. Henry Bagley Benson, Lawrence Walker Benson, all of Atlanta; and Charles Scott Benson, of New York City; a sister, Mrs. Barrie B. Veal, Austell; two grandchildren and several nieces and nephews. Funeral services were held at Spring Hill, with Dr. Louie D. Newton officiating. The Fulton County Medical Society served as an honorary escort. Burial was in West View Cemetery, Atlanta.

\* \* \*

Dr. James Samuel Daniel, aged 76, Harlem, practicing physician and member of a prominent Georgia family, died suddenly at his residence, September 6, 1947. A native of Jefferson, he attended the Martin Institute, the Chattanooga Medical College from which he received his medical degree in 1893, and did post-graduate work at Cook County Hospital in Chicago. He practiced medicine in Banks for 5 years, in Danielsville for 30 years, and in Harlem for 20 years. Dr. Daniel had given up most of his practice because of failing health. He was a loyal member of the Harlem Baptist Church and a Mason, member of Harlem Lodge, No. 276 F. & A. M. He is survived by his wife; two daughters, Lt. Sallie F. Daniel, government hospital nurse stationed at San Antonio, Texas; and Mrs. Parker Heaton, who is now in Korea with her husband; two sons, Horace and Sam Daniel, both stationed in California with the U. S. Navy; one grandson, George S. Daniel, Jr., of Thomson. Funeral arrangements will be announced later.

\* \* \*

Dr. Archie Paul Evans, aged 41, physician and surgeon of Hawkinsville died at his residence, August 29, 1947. Dr. Evans was a native of Alabama and graduated from Jefferson Medical College, Philadelphia, in 1929. He had been a resident of Hawkinsville for about 8 years, going to Hawkinsville from Macon, where he was associated with the Mercy Hospital. He was a very successful physician and surgeon, and had just opened a clinic in Hawkinsville. He was twice married; was a member of the Baptist church, a member of Ocmulgee Medical Society, the Medical Association of Georgia, and a fellow of the American Medical Association. Survivors include one son, Charles Evans; parents, Mr. and Mrs. K. M. Evans, Tuscaloosa, Ala.; one brother, Dr. P. K. Evans, Sylvania; one sister, Mrs. L. H. Rutherford, Nashville, Tenn. Funeral services and burial were held at Tuscaloosa, Alabama.

### DECEASED PHYSICIANS

The names of deceased physicians should be reported promptly to the Secretary-Treasurer of the Association.

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## PAROXYSMAL HEMOGLOBINURIA

### *Report of Case*

W. G. ELLIOTT, M.D.

*Cuthbert*

Paroxysmal hemoglobinuria is a rare disease characterized by transitory hemoglobinuria following exposure to cold or occasionally after exertion, and by the presence in the blood of autohemolysin which unites with the red blood cells only at low temperature. The disease is a manifestation of late syphilis, either congenital or acquired.

Johannis Actuarius in 1529 was perhaps the first physician to describe this disease. He was a court physician at Constantinople. His best known work was his *De Urinis*. It was in this that he described the urine as being azure and livid as well as black in certain individuals after exposure to cold. George Harley, an Englishman, in 1865 reported two cases. Dressler in Wurzburg in 1854 reported a case and gave the first good description of the disease, reporting intermittent albuminuria and chromaturia in a 10½ year old child with syphilis congenita. Numerous cases were reported during the latter part of the 19th century. Donath and Landsteiner in 1904 made an important contribution when they observed that the blood of their patients contained an autohemolysin which may be demonstrated by a simple *in vitro* test.

The cause of the disease is now accepted to be syphilis. The patient may or may not show other signs of late syphilis but the

Wassermann or Kahn test is almost invariably positive. Nearly all the cases are either children with congenital lues or adults long past the secondary stage of acquired syphilis.

The Donath and Landsteiner phenomenon reveals one of the fundamental features of the mechanism which operates during a paroxysm. The test reaction in its simplest form is carried out by chilling the patient's blood to about 5 degrees centigrade for ten minutes and then warming to 37 degrees centigrade when hemolysis occurs. Normal blood so treated shows no hemolysis.

### *Symptoms*

Between the chilling which may be surprisingly slight, and the onset of the paroxysm, there is a latent period varying from a few minutes to six or eight hours. During that time the leukocyte count may drop to 2,000 or 3,000 per cubic millimeter with a relative increase in lymphocytes. With the onset of the attack the lymphocytes decrease and a slight polymorphonuclear leukocytosis occurs. The attack consist of malaise, often headache, pain in back, legs and abdomen, chilly sensations or a shaking chill, transitory fever, during which the temperature may be 104 degrees Fahrenheit or higher, and cyanosis. There may be a temporary rise in blood pressure. Frequently the liver and spleen enlarge during an attack. The urine is dark red or burgundy color, often described as black by the patient. It contains hemoglobin, methemoglobin, hematin, hyaline and granular casts, pigment casts and urobilin. In freshly passed specimens, intact erythrocytes may be found. The hemoglobin may be present



in only one specimen of urine or it may appear for a day or two. Following the attack, mild jaundice is common. In the intervals between attacks the patient may be in good health. When attacks are repeated at short intervals secondary anemia is commonly present. An artificial attack may be brought on by immersion of the hands and feet in ice water for a few minutes.

### *Diagnosis*

(1) Transitory excretion of dark colored urine during winter months following exposure to cold or exertion. (2) A positive Kahn or Wassermann reaction and stigmata of late syphilis. (3) The Donath and Landsteiner reaction in the drawn blood. (4) The artificial production of an attack by immersion of hands and feet in ice water. Without a positive Kahn or Wassermann test the diagnosis is uncertain, as there are types of transitory hemoglobinuria unassociated with syphilis, for instance the march hemoglobinuria in which an attack is induced by a long walk or march. The hemoglobinuria of malaria also has to be differentiated.

### *Treatment*

Various forms of therapy have been advocated but none has been shown to be as effective as antisiphilitic treatment. Treatment does not necessarily do away with the positive Kahn or Wassermann or the Donath-Landsteiner reactions but the paroxysms are stopped and the patient enjoys good health.

### REPORT OF CASE

M. A. R., a white male about 52 years old was admitted to Patterson Hospital Thanksgiving day, 1945, complaining of pain in the upper abdomen and aching all over. He was thought by his family to have had a heart attack and had suffered very badly at home but on arrival at hospital had got some relief. He was nauseated and vomited before arrival. He stated that early that morning he had got up and felt as well as usual and went to his work driving oil truck. (This was one of the rather cool mornings, probably the coolest of the fall). He became chilled but thought nothing of it. About 10:00 A.M. he began to ache and felt badly and had a rigor or chill and was carried home and then he developed pain in the upper abdomen and was aching all over. He was unable to get a doctor in his

home town and was brought to the hospital in an ambulance, a distance of about twenty miles.

*Past History:* He had always had good health. Had influenza three or four years ago and lost three or four days from work. He had usual diseases of childhood with no complications. Born in Kentucky and lived there until 1918, then moved to Terrell County, Georgia, when he got out of the Army (World War I). He has lived in Terrell County, Georgia, since then. His wife, aged 43, is living and well; one child 18 years old, living and well; wife had one miscarriage at three months before child was born. Wife had a negative Kahn test.

*Family History:* Father died of blood poison at age 58, in 1923; mother died of pellagra at age 56; one brother died of heart disease (leakage of heart) at age 23; one sister living and well; one sister died at age about 46, cause not known.

He was examined and nothing definite was found on physical examination. Electrocardiogram was normal. On obtaining a routine specimen of urine it was found to be very dark (black) and was found to be full of hemoglobin, albumin and casts. After getting the specimen the history was gone into more carefully. For three winters previously he had had one or more attacks of passing so-called black urine and in connection with this had felt badly for a few days. He had not had a severe attack like this one previously. These attacks always came on shortly after getting chilled and usually they occurred near the first cold of the fall. He had been to one or two physicians and told them about these attacks, but they had not found any trouble on examination of the office specimen of urine. He gave a history of having had a penile sore in 1914 while living in Kentucky. He was treated for one week for this and told he was well. He had had no other antiluetic treatment. His general health had been good.

*Physical Examination:* A fairly well developed and nourished, white male, 52 years old. Head: Essentially negative; eyes: pupils equal and react to light and distance; mouth: pyorrhea alveolaris; throat: negative; neck: no glandular enlargement; chest: symmetrical, expansion equal right and left; lungs: clear throughout; heart: rate regular, no evidence of enlargement, no murmurs; blood pressure 130/90; abdomen: slight tenderness over upper abdomen with slight rigidity of abdominal muscles, tenderness slightly more on right side in upper abdomen. Unable to palpate liver or spleen, no masses felt, no evidence of hernia. Genitalia: essentially negative; rectal: negative; extremities: no paralysis, edema, etc. Reflexes: physiologic; temperature: elevated (records lost in hospital fire); laboratory: complete blood count showed nothing significant but perhaps a leukocytosis and mild secondary anemia. Urine already described. Donath-Landsteiner test on specimen of drawn blood was definitely positive; Kahn test was strongly positive.

*Course and Treatment:* The morning after admission his urine was perfectly normal and remained normal. He was started on antiluetic treatment. Bismuth subsalicylate intramuscularly once weekly for twelve doses, then mapharsen 0.06 gram intravenously for twelve doses once weekly. He has had these alternately since November 1945. He has not had any recurrence of his attacks of hemoglobinuria and has felt well.

His Kahn test January 30, 1947, was still strongly positive. The Donath-Landsteiner test March 20, 1947 was still positive. On March 6, 1947, his hemoglobin was 70 per cent; red blood count 3,600,000; white blood count 9700; polymorphonuclear neutrophils- 71 per cent and lymphocytes 29 per cent.

### *Summary*

A short discussion of paroxysmal hemoglobinuria has been given.

A case report of an illustrative case has been given.



Antiluetic therapy is the most effective treatment and gives relief from the paroxysms, but does not reverse the serologic tests.

#### REFERENCES

1. Major, Ralph H.: *Classic Description of Disease*, ed. 2.
2. Kelly, Herbert T.: *Paroxysmal Hemoglobinuria*, report of two cases, Pennsylvania M. J. 1934.
3. Mackenzie, George M.: *Cecil's Textbook of Medicine*, ed. 3.
4. Mitchell: *Nelson's Textbook of Pediatrics*, ed. 4.

## PERINEAL PROSTATECTOMY; A HOPE FOR CANCER CURE

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The purpose of prostatic surgery is to preserve the life, health and comfort of the patient. Toward accomplishment of this end there are three recognized surgical approaches: suprapubic, transurethral and perineal. Each has merit and special advantages, depending upon definite indications presented by the particular patient being treated. Prostatic obstruction is not a simple and uncomplicated condition to which one or even two of these procedures may be routinely applied with success. The competent urologist must be prepared to perform all methods. Protection of the life, health and comfort of the patient can be assured only by fitting the procedure to the individual case, and not vice versa.

Though the perineal operation is well established throughout most parts of this country and the world, in our own section it is neglected. Why is this so? The exact reason for it is obscure, but the main objections heard are that it is difficult and that complications of incontinence and fistulae are common. Another factor is that perineal surgery has not been stressed in urologic training in this region. Some maintain that the problem is being adequately handled by

the suprapubic and transurethral methods, which means that carcinoma is being neglected or abandoned as hopeless. This view is not justified in the light of possible results by perineal prostatectomy. Others recognize perineal indications but send patients to other sections of the country for surgery.

Actually perineal prostatectomy is not exceedingly difficult, certainly no more so than good transurethral surgery. It requires knowledge of the anatomy of the region, careful technic and considerable experience, but is within the scope of moderate surgical ability. The great fear of incontinence and fistulae is without foundation. In the experience at Grady Memorial Hospital, Atlanta, and from reports of reputable clinics throughout the country, these complications have not been significantly troublesome. The occasional case of incontinence or urinary fistula becomes exaggerated by hearsay, whereas there is a great tendency to minimize complications and poor results from transurethral and suprapubic operations. Failures in these latter cases are equally as frequent, but rarely admitted or publicized.

What are the advantages of the perineal approach? First, and most important of all, it is the only method by which carcinoma of the prostate can be removed. This, the most common internal cancer in the male, deserves everything which can be done to combat it, and it is the primary theme of this paper. Too often is the condition considered hopeless, and a patient is only rendered palliative treatment by transurethral resection to relieve obstruction, and orchidectomy or estrogenic therapy in the hope of relieving symptoms. Numerous authoritative studies show approximately 15 per cent incidence of carcinoma of the prostate in all men above the age of 45. It occurs both with and without hyperplasia, and the importance of rectal examination in all men

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of this age group cannot be overemphasized. Though all cases may not be cured, there is hope for many as shown by conclusive reports of long-term cures. After suspicion or diagnosis of carcinoma, the negativistic attitude of hopelessness must not be allowed to prevail. Suitable cases deserve radical removal. The criteria in brief are the general condition of the patient, absence of demonstrable metastases, and no palpable extension of the growth beyond the prostatic capsule. Besides these features, the best basis for surgical judgment is the Golden Rule. Just as in other types of malignancy, the principle of treatment is to separate the patient from the cancer.

The perineal operation has many advantages which make it suitable for certain benign conditions, as well as for malignancy. Anatomically it is the direct approach to the prostate. The prostate is exposed and seen as well as felt. The complete procedure is accomplished under direct vision so that bleeding may be promptly and effectively controlled, and plastic reconstruction of the bladder neck and posterior urethra is possible. The operation entails very little shock to the patient, and is very well tolerated. Mortality statistics are uniformly lower than in suprapubic operations. Postoperative drainage is excellent, lowering morbidity by prevention of sepsis from stasis. The wounds heal by primary union, and this is particularly advantageous in very obese men with pendulous abdomen. Confinement in bed, the period of catheter drainage, and hospital stay are materially shortened.

Prostatic calcuosis and fibrosis of the prostate involving the whole gland and its capsule can be adequately treated only by perineal operation. Most of the hyperplasias which are too large for transurethral resection are suitable for this method. Though some are attempting to do complete prostatectomy by transurethral route and

are using it almost exclusively, the consensus is that such procedure should be used for moderately enlarged glands and fibrous contractures of the bladder neck. The suprapubic approach is indicated for the larger type gland with marked intravesical enlargement and such bladder complications as stone, diverticulum, tumor and disturbances of function whether myogenic or neurogenic. Practically all other benign enlargements are well handled perineally. A great advantage is that suspicious glands may be exposed for examination and biopsy frozen section, thereby determining whether radical removal should be done.

Perineal prostatectomy may be total, subtotal or conservative. The latter is an intracapsular enucleation, leaving the capsule and seminal vesicles. In the radical form, however, the continuity of the bladder with the urethra is sharply interrupted by removing in one piece a cuff consisting of the prostate, prostatic urethra, and lower part of the bladder. The cut edge of the bladder is then brought down to the sphincter in the membranous urethra, re-establishing the continuity. The seminal vesicles are removed completely or in part depending upon involvement by the growth. Subtotal prostatectomy in suspicious glands may completely remove a carcinoma which could not be reached for biopsy by transurethral or suprapubic approach.

The classic procedure as devised by Young is preferred. It begins with a curved incision one and one-half inches in front of the anus, from ischial tuberosity to ischial tuberosity. Incision is carried through the median raphe of the perineum, and the ischiorectal fossae are opened widely by blunt dissection. The transverse perineal muscles are exposed, inserting into the perineal body, and the central tendon is divided just behind this point. The rectourethralis muscle is then encountered and may be cut across, but is preferably

divided bluntly in the direction of its fibers. During all this time the rectum is gently retracted and separated posteriorly. The prostate itself with its shiny covering by Denonvillier's fascia is seen under the rectourethralis muscle, and here the rectum is further separated far enough to be out of the way. For enucleation the prostatic capsule is incised distal to the veru and the gland shelled out. For radical operation the prostate is cut across at its apex and superiorly at the bladder, effecting complete removal.

Belt has modified the approach by entering inside the external sphincter of the anus and proceeding by blunt dissection along the longitudinal fibers of the rectum. He claims less bleeding and less interference with nerve supply, but the exposure is less adequate. Many other modifications have been contributed, but in general the original Young operation is the standard today.

An objective analysis of the functional results of perineal prostatectomy reveals that they compare favorably with suprapubic and transurethral operations. Actually the three cannot be too strictly compared, for their indications are so different that all three cannot be rationally applied to all types of cases. In approximately 50 perineal prostatectomies at Grady Memorial Hospital over the past 18 months, of which ten were of the radical type, there has been only one instance of troublesome incontinence, which recovered completely in 6 months, and one instance of urethrorectal fistula. The latter was in a case of carcinoma in which an opening into the rectum was recognized but the operation was completed because of the urgency for removing a known carcinoma. Another case developed acute urinary retention and bladder calculus due to an ill-advised attempt at catheter change too early following operation. These results are corroborated by

Young, Smith, Rolnick, Davis and many others who make conclusive reports of definite long-term cures combined with good functional results. In conservative perineal enucleations for hyperplasia the results compare very favorably with other types. Urinary control may require a few days or weeks for complete recovery, but urinary symptoms and infection are usually less than in transurethral resections where stricture and persistent pyuria are so common, especially when large glands are removed by this method. Sexual ability is about the same as after suprapubic operations, except that in radical operations it is usually abolished.

The great bugaboo concerning complications and poor results of perineal prostatectomy is greatly exaggerated and without foundation. It should not be allowed to deter medical care in Georgia from equaling that throughout the country in the fight against prostatic carcinoma.

### *Summary*

1. Carcinoma of the prostate is by three times the commonest internal cancer in the male, and occurs in approximately 15 per cent of all males past the age of 45. The only hope of cure is early detection by rectal examination and radical perineal prostatectomy in selected cases.
2. Perineal prostatectomy is the method of choice in many benign conditions of hyperplasia, calculosis and fibrosis, because of its direct anatomic approach under full vision with low morbidity and mortality.
3. The functional results compare favorably with suprapubic and transurethral operations.

### **BIBLIOGRAPHY**

1. Belt, E.; Ebert, C. E., and Surber, A. C., Jr.: A New Anatomic Approach in Perineal Prostatectomy. *J. Urol.* 41: 482-497 (April) 1939.
2. Colston, J. A. C.: Carcinoma of the Prostate. A Study of the Percentage of Cases Suitable for the Radical Operation. *J.A.M.A.* 122: 781-784 (July) 1943.
3. Crabtree, E. G.: Total Perineal Prostatectomy for the Small Prostate. *Am. J. Surg.* 18: 251-258 (Nov.) 1932.



4. Davis, E.: Technic and Results in Perineal Prostatectomy, J.A.M.A. 115: 582-584 (Aug. 24) 1940.
5. Deming, Clyde L.: Functional Results of Perineal Prostatectomy, Yale J. Biol. & Med. 14: 521-528 (May) 1942.
6. Hinman, Frank: Modern Operation of Plastic Perineal Prostatectomy, Tr. Am. A. Genito-Urin. Surgeons 30:265-279, 1937.
7. Lowsley, O. S.: Total Perineal Prostatectomy, J. Urol. 43: 275-285 (Feb.) 1940.
8. Lowsley, O. S., and Kilgore, R. N.: Total Perineal Prostatectomy: A Modification of Previously Published Technic, J. Urol. 45: 196-201 (May) 1940.
9. Marshall, V. F.: Subtotal Prostatectomy; Presentation of New Technic, J. Urol. 52: 250-265 (Sept.) 1944.
10. Rolnick, H. C.: Radical Perineal Prostatectomy, J. Urol. 35: 527-530 (May) 1936.
11. Smith, G. G.: Total Perineal Prostatectomy, Pennsylvania M. J. 44: 1391-1401 (Aug.) 1941.
12. Vest, S. A.: Radical Perineal Prostatectomy. Modification of Closure, Surg. Gynec. & Obst. 70: 935-937 (May) 1940.
13. Vest, S. A.: Perineal Prostatectomy: Modification of Closure, Surgery 8: 798-803 (Nov.) 1940.
14. Young, H. H.: Cure of Cancer of the Prostate by Radical Perineal Prostatectomy (Prostato-Seminal Vesiculectomy): History, Literature and Statistics of Young's Operation, J. Urol. 53: 188-252 (Jan.) 1945.

## UROLOGIC CONDITIONS IN CHILDREN

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There are many often neglected urologic lesions in children. The purpose of this paper is to direct attention to some of the more common urologic conditions that occur in children. The importance of early diagnosis and correction cannot be over-emphasized. Due to the prevalence of the idea that nothing should be wrong with the urologic tract unless it has been contaminated by the gonococcus, there has been a great deal of delay about bringing children to the urologist. There has also been, in the past, too much of the idea, even among the pediatricians and family doctors, of "let the child alone and he'll probably outgrow it", when any apparently minor symptom or defect appeared. Then too, parental reluctance and fear of pain for the child contributed to neglect of urologic lesions in children. We, ourselves, are contributing to the neglect of children with urologic lesions by not emphasizing to pediatricians and family doctors the harmful effects of lack of proper attention to urologic lesions.

The most common neglected urologic

condition in children is the narrow urethral meatus. It is hard to understand why so many children with a narrow urethral meatus are neglected and allowed to go on having one or more of the various symptoms of narrow urethral meatus without proper examination by a competent urologist.

In children the most common symptom in our experience caused by narrow meatus is bedwetting. In 316 children with various urologic complaints seen during the past ten years, the major symptom was enuresis in 98 instances, or almost 1/3 of the patients. The ages varied from 2 to 3 years up to 24. Now a 24-year-old man that has been bedwetting for 24 years has surely begun to believe himself an inferior person and is almost surely a permanent misfit in society. Enuresis was found to be due to narrow meatus almost every time. An occasional exception is seen when a congenital stricture in the anterior urethra is found to be the cause. There is seen an occasional rare patient with enuresis when no obstruction has been demonstrated. However, in these patients we believe the pathologic change in the posterior urethra is the same as though stricture or narrow meatus were present. The obstruction causes a hyperemia of the posterior urethra and a low threshold for the voiding reflex is present. This hyperemia is treated by urethral instrumentations and later by instillations of 1 per cent silver nitrate solution.

In 98 patients who were bedwetters meatotomy was done in 92. Urethral instrumentation consisted of passage of bougies in young children up to 9 to 10 years old, depending upon the size and development of the child. Ordinary sounds were used in older children. Instillations of 1 per cent silver nitrate solution were begun after a few urethral instrumentations. Dilatation was carried to 20 to 22F when possible.

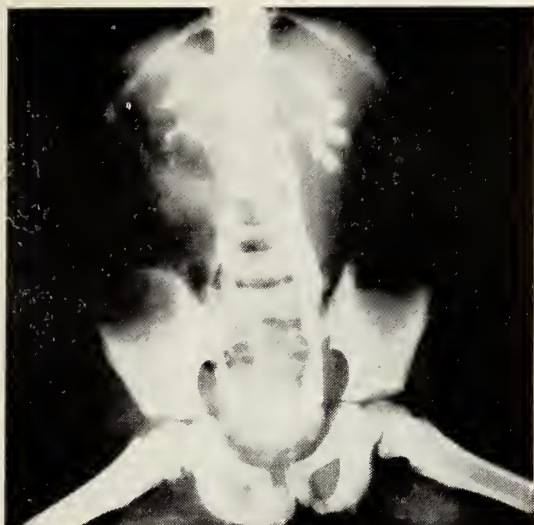


Figure 1

Retrograde urogram of 5-year-old boy showing dilated ureter and destruction in kidney pelvis which was caused by vesical neck obstruction.

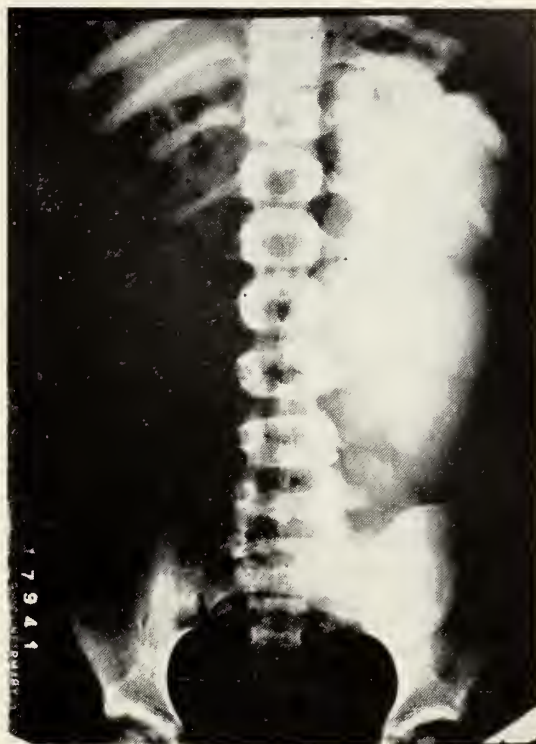


Figure 2

Massive hydronephrosis of left kidney in 8-year-old girl caused from valve-like obstruction at ureteropelvic junction.

The results have been extremely gratifying. Many of the children did not wet their beds after the meatotomy and first urethral instrumentation. All but 3 of the children stopped bedwetting after instrumentation had been done a few times. The largest number of instrumentations was 36. The instrumentations and 1 per cent silver nitrate instillations are done to relieve the hyperemia and hyperesthesia of the posterior urethra. Older children who wet their beds have been found to respond equally as well to meatotomy and urethral instrumentation.

Another symptom, seen almost as often as enuresis, is the so-called "pyelitis of childhood". This is usually nothing but an acute urinary infection occurring principally in girls and nearly always due to a contamination from the rectum caused by faulty or improper cleansing after bowel movement. It has been surprising to us how many mothers apparently do not know the proper way to clean these little girls and do not teach them the proper way to clean themselves. A narrow urethral meatus combines with a vaginitis to make these attacks of so-called "pyelitis" recur from time to

time. Urologic examination should be made and obstructions in the upper urinary tract ruled out. This can usually be done by intravenous urography. When no disease is found in the upper urinary tract, examination of the vagina and urethra have, without exception, revealed vaginitis and narrow urethral meatus. Meatotomy, urethral instrumentation and local treatment for the vaginitis along with proper stool hygiene have almost, without exception, stopped the recurring attacks of "pyelitis".

There is little doubt that recurrent attacks of urinary infection cause permanent kidney damage. The direct relationship of endocervicitis and vaginitis to urinary symptoms and infections in adults has been shown by many observers. The results obtained by urethral instrumentations and care of vaginitis in children show that the same relationship is true in children.

Another neglected urologic lesion in chil-



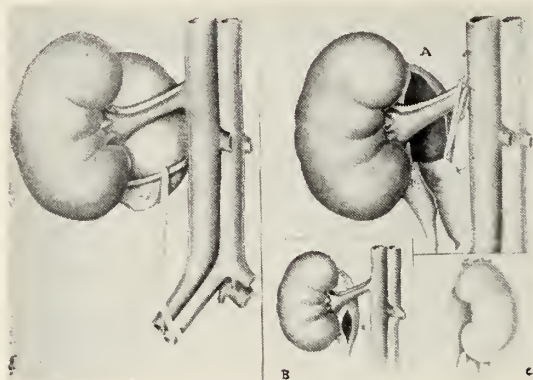


Figure 3

Large hydronephrotic sac in boy 7-years-old caused by aberrant vessel. A shows vessel divided and anterior part of sac being removed. B shows closure of anterior part of hydronephrotic sac. C posterior part closed after excess sac has been trimmed away.

dren is vesical neck obstruction. Vesical neck obstruction is encountered much more often in children than formerly was believed. This condition is found more frequently in boys than in girls. The importance of early recognition of vesical neck obstruction in children cannot be over-emphasized. Late recognition and neglect allow irreparable renal destruction to take place.

The history in patients who have vesical neck obstructions is of the utmost importance. History of straining, frequency, pain or soreness in the lower abdomen, or dribbling of urine should cause suspicion of inability to empty the bladder properly or vesical neck obstruction.

Examples of neglected vesical neck obstruction are being seen more and more often. One or two will suffice to illustrate:

A boy, 3 years old, was seen by us three years ago. The important points in the history were straining to urinate and a slow dribbling stream. The mother had also noticed the abdomen appeared swollen most of the time. The general appearance was that of mal-nutrition; his weight was 20 pounds. Examinations revealed a mass in the lower abdomen which proved to be a distended bladder with 30 ounces of residual urine. The urine was negative, the NPN was 90. Suprapubic cystostomy was done. The vesical neck was found to be partially closed by a ridge or bar-like obstruction. The child gained 10 pounds in two weeks' time and has grown normally and steadily since. He was last seen about three weeks ago and presented the normal healthy appearance of any 6-year-old boy.

Another illustration of neglected vesical neck obstruction in childhood was a patient recently seen at the age of 35. In addition to vesical neck obstruction, the boy had hypogonadism and undescended testes.



Figure 4

Film made 9 months after operation, shown in figure 3.

Unfortunately, 15 years ago at operation by a general surgeon, both testes, which were intra-abdominal, were thought to be ovaries and were removed. The mother was told nothing more could be done and hence she did nothing until the boy (now 35) recently became ill with uremia. When seen by us his NPN was 165. Suprapubic drainage was done and other measures to aid renal function were instituted. There was no favorable response; the blood NPN rose steadily and the patient died a few weeks later. Autopsy showed the vesical neck obstruction and renal damage. This renal damage could have been prevented by early relief of the vesical neck obstruction, and the hypogonadism could have been cured or helped by proper hormone therapy.

A 5-year-old boy seen recently had dribbling of urine when excited. He also was observed to strain when voiding. Intravenous pyelograms showed dilatation of both lower ureters and some dilatation of the right ureter and renal pelvis. Cystoscopy showed a vesical neck obstruction of a bar-type. Blood NPN was 39. The bar was resected transurethrally, using an electrode made with fine piano wire insulated with an urethral catheter. By placing the exposed wire across the bar and rotating the cystoscope while applying the cutting current the bar was quite satisfactorily removed. The cut was made very much like that of the Kirwin rotary blade resectoscope. Ten days later the blood NPN was 32. His stream is now very much better and there is no more dribbling of urine.

Another often neglected urologic lesion in children is obstruction at the ureteropelvic junction. Obstruction at the ureteropelvic junction causes great dilatation of the renal pelvis and, unless recognized early,



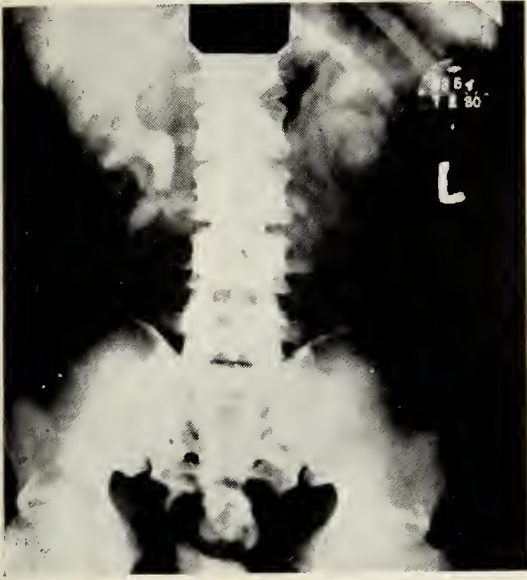


Figure 5  
Intravenous urogram of patient 3-years-old after bilateral uretero-intestinal transplantation. No accumulation of dye in the lower sigmoid.

causes destruction of the kidney. Common symptoms that should lead to suspicion of ureteropelvic obstruction are dull aching pain in the flank and kidney region and recurrent pyelitis or urinary infection. There may be recurrent attacks of pain like Dietl's crisis. Investigation will show the hydronephrotic kidney pelvis and obstruction at the ureteropelvic junction.

Such a case was seen two years ago in a girl 8-years old. She had a dull ache in the left flank and some apparent swelling in the side for several years. Her mother remembered she had formerly suffered attacks of severe pain with fever. Examination showed a large hydronephrotic and functionless left kidney. The ureteropelvic junction of the right kidney was also obstructed but not markedly so. Left nephrectomy was done. The cause of the ureteropelvic obstruction was determined to be a valve formation in the ureteral wall, and not an aberrant vessel as was expected. Follow-up investigation showed the lesion at the right ureteropelvic junction to be causing progressive hydronephrosis of the right kidney. Plastic operation on the right kidney pelvis was done six months ago. The obstruction in this kidney was likewise determined to be caused by a valve-like formation in the ureter at the ureteropelvic junction although aberrant vessel had been suspected.

A boy 7 years of age came in sometime ago with a history of recurrent attacks of pain in the right side. These attacks were sometimes attended by fever and chills. Examination revealed a hydronephrotic right kidney with a picture typical of aberrant vessel obstructing the ureteropelvic junction. The function of the kidney was found to be about one-half of normal. At operation the vessel was ligated and the redundant portion of the hydronephrotic sac was removed. Convalescence was uneventful and uretero-pyelograms made later showed good function and good pelvic drainage.



Figure 6  
Vacuum suction tube used in treatment of cryptorchidism and hypogenitalism.

Other neglected lesions in children are developmental defects. These range from mild hypospadias to undescended testes to complete exstrophy of the bladder. Proper surgical treatment of these developmental defects should not be delayed. These young children stand operative procedures as a rule better than older children or adults, and to hope that the child will outgrow these developmental defects is wishful thinking. As a rule the tendency is for them to grow worse.

Eighteen years ago a boy 19 years of age came in with complete exstrophy of the bladder. After the second ureteral transplantation was done he awoke during the night and spoke to his father, "Pappy this is the first time I ever woke up at night and found my bed wasn't wet." A plastic operation was done on his penis and now he has married and is operating a beauty parlor and barber shop in a North Georgia town. Intravenous urograms made recently show good renal function although some hydronephrosis is present on both sides.

The optimum time for operation on complete exstrophy should be by the age of 6 years. Then the realization that the wet bed at night is not normal need not be such a shock.

Another developmental defect especially worthy of mention is undescended testicle or cryptorchidism. For many years we have treated cryptorchidism with a vacuum suction tube, giving a regular series of suction treatments over a period of time varying from a few months to a year or longer. The results of this method of treatment of cryptorchidism have been extremely gratifying.



Figure 7  
Showing suction tube applied to patient.

One feature noted in the use of the vacuum suction tube in this manner has been the development of the penis and scrotum by the suction. As many of the boys with undescended testes also have underdeveloped penes, the development of the organ noted following the series of vacuum treatments is of especial importance. This development may be explained by the increased blood supply brought about by the vacuum suction treatments. Then, too, the mild trauma to the testicles in all probability has the effect of expressing a little extra testicular hormone into the blood. These vacuum suction treatments are repeated at weekly or bi-weekly intervals until the desired results are obtained or until it is evident that the suction is not going to pull the testicles down into the scrotum. If hernia is present vacuum suction treatments should be used with caution, although hernia does not constitute a contraindication to suction treatment. If the boy is approaching puberty and a few suction treatments do not bring down the testes, operation should be done without delay. Anterior pituitary hormones have been used in conjunction with the vacuum suction treatments but no demonstrable increase in the percentage of suc-



Figure 8  
Lower picture shows development after 9 months' treatment with vacuum suction tube.

cesses has been observed. It is true of course that a certain percentage of small boys with undescended testes will have descent of the testes as the boy becomes older. This group is especially easy to pull down with the vacuum suction tube, and by all means should have the advantage of its use.

When operation is needed the method of Torek is the most satisfactory. After freeing the cord as far back of the peritoneum as possible, the testicle is pulled down into the scrotum and fastened to the fascia on the inner side of the thigh. It may be released after a few months, even sometimes as early as six weeks if no tension on the cord is apparent. Development of the penis and scrotum and further loosening of the cord by additional vacuum suction treatments after the operation have been of help in some patients who appeared to need such development.



Figure 9  
Testicle attached to thigh following first stage of Torek operation.

### Summary

Neglected urologic lesions in children are divided into obstructions and developmental defects. Narrow meatus, urethral stricture and obstructions at the ureteropelvic junction all are much more frequent than are suspected ordinarily. Neglect of these conditions allows damage to occur that should be prevented. Enuresis especially has responded to meatotomy and urethral instrumentation. Early recognition of ureteropelvic obstructions is essential to prevention of renal destruction on the affected side. Cryptorchidism and hypogonadism respond to vacuum suction treatments in the majority of instances. Hormones should be administered as an aid to proper development when indicated. The Torek operation for cryptorchidism is the method of choice when surgery is indicated. Operation for complete exstrophy of the bladder should be done at an early age. Delay and neglect both on the part of the family physician and the pediatrician, and sometimes on the part of the urologist, often allows minor lesions to become major ones and minor damage to become major and irreparable damage.

It may be seen from the foregoing that

there is much to be done by urologists to help children overcome lesions and defects that when neglected allow crippling damage to occur in later years.

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## HYDRONEPHROSIS

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One may define hydronephrosis as an overdistention of the renal pelvis which is brought about by organic or functional obstruction in the urinary passage. For convenience, one may classify this disease into simple, or noninfected, and infected hydronephrosis. By the former type we mean the ones in which the fluid in the pelvis of the kidney is clear. The latter is when inflammation is present. The majority are the infected kind. An infected hydronephrosis may progress and become a pyonephrosis.

The principal cause of hydronephrosis is an obstruction in the urinary tract. These obstructions may be of a mechanical nature or may be the result of some nervous or muscular dysfunction of some part of the urinary tract. There are many factors which enter into the cause of these obstructions, and some may occur in the urinary tract anywhere between the pelvis of the kidney and the external meatus, or they may lie outside the urinary tract. They may be either congenital or acquired.

Hydronephrosis is one of the most common of renal diseases. This is no doubt due to its relationship to so many forms of pelvic diseases, such as carcinoma of the prostate, uterus, ovary, bladder and rectum, hypertrophy of the prostate, and uterine myomas. Except for a few of the congenital



types, hydronephrosis is always secondary to some other disease.

One may find hydronephrotic kidneys in the newborn and young children. These types of cases some urologists attribute to the fact that the ureter is inserted high on the pelvis of the kidney. Such cases are most likely, in later life, to develop calculus, hydroureters, and infection in the ureters or kidneys. Valve formation at the ureteropelvic junction may result from high insertion of the ureter or an anomalous course of a blood vessel. Congenital anomalies of the ureters and kidney pelvis predispose to formation of a hydronephrotic kidney in all periods of life. Early in life one can prevent the formation of a number of cases of hydronephrosis by correcting such conditions as congenital stricture of the urethra, contracted bladder neck, phimosis, and pin point meatus.

Some of the chief causes of obstruction which result in hydronephrosis are as follows: (1) calculus in ureter or kidney; (2) stricture of ureter; (3) kinking of ureter; (4) aberrant vessels, and (5) pressure on ureters.

Calculi are found very often where one has a hydronephrosis. In my opinion they play a great part in causing this condition. These stones may be found at the ureteropelvic junction, or anywhere in the ureteral tract.

One finds stricture of the ureter at the ureteropelvic junction or at the ureterovesical orifice. Most frequent location for ureteral strictures causing hydronephrosis is at the ureteropelvic area. Very often cases of hydronephrosis in which the cause has been thought to be abnormal implantation of ureters or aberrant blood vessels, when closely studied, will prove to have originated primarily from strictures of the ureter.

A kink in the ureter will invariably result

in hydronephrosis. Adhesions and fibrous bands, by compressing the ureter, will result in hydronephrosis. In some cases these are congenital; usually they are due to inflammation in the region of the affected ureter. Periureteral fibrosis may compress the ureter and cause backing up of the urine sufficient to bring about hydronephrosis. In the female such fibrosis may follow gynecologic operations. One may also find such condition in the application of radium. Pelvic tumors, cysts or tuberculous glands may compress the ureter sufficiently to cause obstruction. In male patients a very frequent cause of obstruction leading to hydronephrosis is seminal vesiculitis which may affect the lower part of the ureter so as to cause fibrotic pressure on it.

Any obstruction in the bladder where one has poor drainage may result in hydronephrosis. Principal among these are prostatic hypertrophy, prostatic neoplasm, median bar obstruction, bladder tumors, stones, urethral strictures, and a small meatus. The hydronephrosis is usually bilateral although we find a slight variation in the size of the renal pelves.

Another type of hydronephrosis frequently found is the nonobstructive type, which is due to paralysis of the bladder or to a functional disturbance of the ureter. This group is often referred to as paralytic hydronephrosis. In lesions of the spinal cord above the sacral level where the reflex center is disconnected from the cerebrum, one finds a loss of voluntary control of the urine. The detrusor muscle is not stimulated to contraction, hence the bladder becomes distended and finally transmits its increased pressure to the ureters and renal pelves. Paralysis of the bladder from spinal cord disease results almost constantly in hydronephrosis.

Another common cause of hydronephrosis is spina bifida. In this condition there

appears to be a partial paralysis of the bladder which causes it to be distended. This, of course, causes hydroureters and an end-result of dilated kidney pelvises.

During the recent war a number of cases of hydronephrosis were reported as a result of injury to the spinal cord, some from bullet wounds and some from fracture of a vertebra. In the event these cases lived eight or ten months after the injury, a dilated renal pelvis practically always developed. A mild case of hydronephrosis has been found within three or four days following the injury.

In tabes a large percentage of the cases develop hydronephrosis. The disturbance is due to the destruction of the sensory fibers. The tabetic patient can empty his bladder, but he neglects to urinate since he has no sensation of distention. When the bladder is distended it requires increase of pressure to force the urine into the bladder, which develops hydronephrosis.

#### *Pathology*

One may have a partial or complete blockage of the renal drainage system. When this occurs the renal pelvis becomes distended with urine and the entire kidney soon suffers pressure atrophy. This may be followed by a shrinkage of the renal tissue. If the secreting portion continues to function in the face of the unrelieved pressure, there is a possibility of a rupture. This is a rare accident and is seldom spontaneous, but is usually the result of external violence or muscular strain. There is also a possibility of absorption of the hydronephrotic collection either through the tubular system or the lymphatics.

The urinary back pressure has its most damaging effects on the blood vessels which, if the pressure continues, will dilate and atrophy. This damaging effect continues to the tubes and the surrounding vessels and results in impairment of the kidney func-



Figure 1  
Hydronephrosis due to obstruction in ureter.

tion. The degree and rapidity of the damage of the functioning part of the kidney depend upon whether one is dealing with an infected hydronephrosis or a noninfected type. The former is the worse of the two evils.

#### *Symptoms*

Frequently hydronephrosis is symptomless until the onset of a secondary infection. One often stumbles on this condition by accident during the course of a routine urologic check of a patient. This condition may not be found until the damage to the kidneys is beyond repair. Sometimes the symptoms are those of a stone, ureteral stricture, a kink in the ureter or any of the pathologic conditions which are responsible for the cause of hydronephrosis. One of the most common symptoms is urinary frequency accompanied with a dull aching pain which may be referred to the umbilical region. The patient often has tenderness over the costovertebral angle with a tumor that moves with respiration. In infected hydronephrosis one may find loss of weight, headache, chills, nausea and vomiting, and also hematuria.

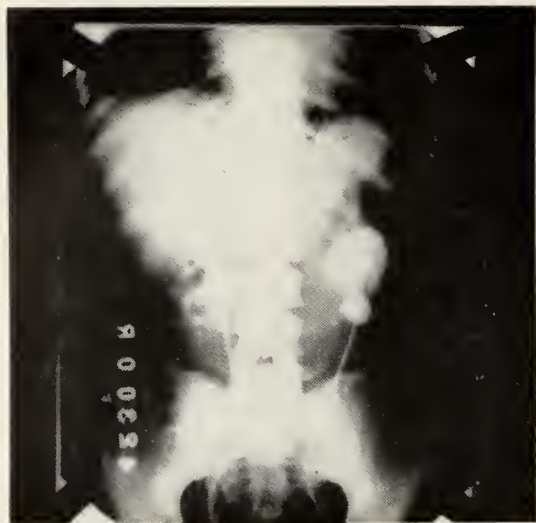


Figure 2  
Hydronephrosis due to stone in ureter.

### *Diagnosis*

With the most recent methods used for diagnosis one is able to establish a diagnosis beyond a doubt. The disease may have progressed to a marked degree before it is discovered. One has to consider the whole urogenital tract as it is not enough just to establish the fact that one is dealing with a hydronephrosis. We have to determine the nature and location of the obstruction causing the hydronephrosis. In order to do this we have to get a careful history, determine the condition of the bladder with the cystoscope, collect catheterized specimens from the kidneys for laboratory study, make a functional test of the kidneys and obtain pyelograms. One must also study the lower urinary tract for such conditions as urethral strictures, prostatic hypertrophy and median bar obstruction. Ureteral catheterization, with pyelograms, is the most useful means for establishing a positive diagnosis of hydronephrosis.

### *Prognosis*

Of course, the prognosis depends upon how far the disease has progressed when treatment is begun. If one is dealing with an infected hydronephrosis, the results of the treatment are not so promising as with a sterile, noninfected type. The cause of



Figure 3  
Hydronephrosis due to infection.

the hydronephrosis has to be considered when one gives his prognosis. If one discovers a case early and the underlying cause is of a mild nature, drainage will restore the kidney to its normal condition. Very often a urologist does not see the case until the kidney function is destroyed and it is necessary to perform a nephrectomy.

### *Treatment*

No special treatment can be outlined for all types of hydronephrosis. One has to consider the cause of the disease. If it is due to some obstruction or infection, one has to proceed with methods of treatment to remove these before the kidney can be restored to its normal state. The treatment also depends on the length of time the disease has been in progress and whether one is dealing with a unilateral or bilateral involvement.

When the cause of the hydronephrosis is found in the infravesical region, the first thing to do is to establish treatment to clear the lower urinary tract. When this is done the kidneys will begin to function normally, provided the obstruction in the lower tract has not been of long enough duration to



cause permanent damage to the kidneys.

Should one locate the cause of the hydronephrosis in the supravescical region, he should first determine if he is dealing with a unilateral or bilateral condition. If it is unilateral and due to a stone or kink in the ureter, such conservative measures as dilatation of the ureter and drainage of the pelvis will help to restore the kidney. It may be necessary to resort to surgery for removal of a stone, straightening a ureter, freeing the pelvis and ureter of aberrant blood vessels, re-implanting the ureter to another part of the pelvis, or other types of plastic operations.

In infected hydronephrosis every effort should be made to remove the infection before resorting to plastic surgery. One should attempt to sterilize the kidney with urinary antiseptics. A course of penicillin or streptomycin may be indicated. A nephrostomy with antiseptic lavage through the tube is helpful in some cases.

### Conclusions

1. In any supravescical or infravescical involvement of the genito-urinary tract, always look for hydronephrosis.
2. One should always try to correct the obstruction in the genito-urinary tract, as this will invariably correct an enlarged renal pelvis.
3. In an infected type of hydronephrosis, try to correct the infection before resorting to surgery.

### DISCUSSION OF PAPERS BY DRS. ELLIOTT, GOODYEAR, McDONALD AND KIRKLAND

DR. RUDOLPH BELL, *Thomasville*: Dr. Elliott in his presentation on hemoglobinuria brought a very timely subject to our attention. It concerns the urologist chiefly in differentiating the condition from a painless hematuria, which, of course, can be differentiated by microscopic and chemical examination of the urine. It is well to remember that hemoglobinuria can be caused by certain drugs and infectious conditions as well as blood dyscrasias.

To one growing up in the environment of the perineal approach to prostatic surgery it is heartening to have the subject brought up in a general session. One should be capable of using all three approaches to the prostate in order to do good urologic surgery.

Dr. Kirkland packed much information in the allotted 12-minute time. He did not have a chance to bring out the gastrointestinal symptoms that very often occur secondary to hydronephrosis—or, as a matter of fact, to pathologic changes of the upper urinary tract. Not infrequently we see individuals come in who have had gastrointestinal symptoms over a number of years. They have had the various gastrointestinal examinations and analysis of the gastric contents and have been treated for gastrointestinal symptoms over a long period of time, whereas a urologic investigation reveals some disease in the upper urinary tract which, when eradicated, relieves the gastrointestinal symptoms.

Dr. McDonald has a timely paper well presented and one which should be stressed.

In order not to consume too much time, I wish to discuss the papers of Dr. McDonald and Dr. Kirkland jointly and limit my remaining remarks to hydronephrosis in children. I have a few slides I wish to show.

(Slide) This first slide represents a retrograde pyelogram in a two-year-old child. No appreciable disease is represented in that case.

The first case which I wish to present is that of a 3-year-old child who was admitted to the hospital because of repeated pyuria. The pus would become almost eradicated under modern chemotherapy but always returned. The mother stated that the child complained at times of a dull ache in the left side of the abdomen. An excretory ureterogram failed to outline the calices of the left kidney. A retrograde pyeloureterogram revealed a definite hydronephrosis, with angulations in the ureter. Operation was advised and accepted. At operation a very large kidney pelvis was noted, and two renal arteries of about the same size. The lower artery lay across the lower portion of the kidney pelvis, which had produced a deformity, probably over a period of months. The lower part of the pelvis was held down by bands, no doubt the result of the lower renal artery. The bands were freed, the pelvis opened and inspected, and the kidney restored to its bed. On re-inspecting the ureter, it was evident that the angulations were just as definite as before the operation. It was evident that little benefit would be given if the angulations were left, so the ureter was withdrawn and an end-to-end anastomosis was done.

DR. J. RIGHTON ROBERTSON, *Augusta*: Dr. Kirkland has presented a paper which is always of interest, particularly to urologists, as this condition is encountered more frequently than any other kidney condition. The chief causes as outlined by Dr. Kirkland are: ureteral calculus, or in the kidney, stricture of the ureter, kinking of the ureter, aberrant blood vessels, and from pressure on the ureter, all of which play a part in the cause of this condition.

Being limited as to time in the discussion of these papers, I will briefly confine my discussion to unilateral hydronephrosis due to ureteral calculus and to stricture of the ureter, and the treatment.

Two lines of treatment may be followed, the first being neurological; the second, surgical.

The first is to remove the stone by cystoscopic manipulation if possible. Over 90 per cent of the stones engaged in the ureter will pass spontaneously, but it is not always advisable to wait too long for this to happen, for fear of damage to the kidney. If the dilatation of the pelvis is found to be due to ureteral stricture, this condition can often be corrected by gradual dilatation with catheter and bulb. When due to ureterovesical cyst, this is amenable to fulguration and meatotomy.

If the hydronephrosis results from the movability of the kidney with a kink at the ureteropelvic junction, stricture or angulation, attempts to straighten out the ureter by catheter or bulb is of some value; also rest in bed with a fattening diet, and abdominal support.

When all of these measures fail then more radical steps will have to be considered.

I would like to stress the point of making repeated efforts to remove obstructions due to stone by cystoscopic manipulations before resorting to an open operation. The indiscriminate removal of ureteral calculi by open operation is to be condemned.

In discussing the paper by Dr. Elliott there are just a few remarks that I might add: first, the cause of the condition being due to sudden hemolysis of the blood, probably intravascularly, as a result of the autohemolysins contained in the patient's own blood, the hemolysins uniting with the red blood cells at a very low temperature, followed by a destruction of the cells only after the blood has become warm. It has been suggested on experimental grounds that during a syphilitic infection, antigens are liberated, either from the spirochetes themselves or from the organs of the host, or from both, and that the antibodies of the Wassermann reaction and of the Donath-Landsteiner reaction are formed as a result. Vasomotor manifestations occurring in this disorder, other investigators have proposed that disturbances in the capillaries, or in sympathetic innervation, may play a role in the etiology of this condition.

## MARKED ENLARGEMENT OF THE HEART WITH MULTIPLE CARDIAC DEFORMITIES

### *Report of Case*

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The medical literature contains many studies of deformities of the heart, both single and multiple, and both acquired and congenital. There are, however, few recorded cases of marked enlargement of the heart, irrespective of cause. The present case is one of marked enlargement of the heart associated with multiple cardiac deformities in a combination hitherto unreported.

### *Case Report*

C. F., a 25-year-old colored male truck driver, was admitted to Charity Hospital, New Orleans, April 11, 1943, complaining of fever of two months duration. The patient was apparently well until February 1943 when he began to have afternoon fever associated with perspiration and aching in the arms and knees. He continued to work until April 4, 1943, but he lost about 35 pounds' weight. The system review was negative. The past history revealed that in 1937, on routine examination while on a football team, he was told that he had "heart trouble" and was forbidden to play. On examination he was well developed and well nourished. He appeared acutely ill and was perspiring freely. The carotid pulsations were bilaterally prominent. In the upper extremities there were Corrigan pulse and capillary pulsation. Examination of the heart showed

a regular rhythm at a rate of 104 per minute. The PMI was in the sixth left intercostal space 12 cm. lateral to the midsternal line. A diastolic thrill was present in the apical region. A pericardial friction rub was present in the same area. A systolic and diastolic to-and-fro murmur was heard best at the apex, but was also heard at the base with transmission of the systolic murmur into the neck.  $P_2$  was louder than  $A_2$ . A few fine rales were present at both lung bases. The abdomen was negative. Pulsations were absent in both femoral arteries. Blood pressure in each arm was 180 systolic and 65 diastolic; at each popliteal fossa the blood pressure was 125 systolic and 110 diastolic.

Laboratory findings: Blood counts and urinalyses were done every three or four days. These showed a moderate anemia and a moderate leukocytosis with a normal differential white count; the urinalysis showed moderate albuminuria and a few red and white blood cells. The urea nitrogen was 16 mg. on admission and 33 mg. on May 5, 1943. The Kline and Kahn reactions were negative. Blood cultures were negative on April 12 and on April 22, 1943; blood cultures were positive for streptococcus viridans on April 13, 14, 15, and 24, 1943.

Fluoroscopic and x-ray studies showed a markedly enlarged cardiac shadow, especially of the left ventricle; the aortic knob was not prominent; there was nothing of the ribs. Oscillometric tracings confirmed the differences in blood pressure in the extremities. The electrocardiogram showed a PR of 0.18 sec., QRS of 0.10 sec., sinus tachycardia, wide and prominent P waves, QRS of moderately high amplitude with slurring throughout. A sound record showed the cardiac murmurs described.

Course in the hospital: Petechiae were found in the right conjunctiva on April 24 and in the left conjunctiva on May 5, 1943. Digitalis was given because of rales in the lungs and the appearance of ankle edema; it was discontinued on May 3. Sulfadiazine was given from April 14 till April 21 without any fall in temperature and then discontinued because of a macular red rash. Sulfapyridine was then tried from April 25 until May 7, when the patient died. During hospitalization the temperature varied from 100 to 102° F.

### *Autopsy*

The significant positive findings were limited to the heart and aorta. The entire pericardial cavity was obliterated as the result of fibrous adhesions. The combined thickness of the visceral and parietal pericardium was 2 to 3 mm. The heart, including the parietal pericardium after removal of all excess fat, weighed 1345 grams. The tricuspid and pulmonary valves were normal. The mitral valve was normal but several of the chordae tendinae were slightly thickened. The aortic valve was deformed, as a result of congenital malformation and acquired disease. It consisted of two cusps. The posterior cusp had a diameter of 4 cm. at the superior margin. The right and left anterior cusps were represented by a single cusp, which also measured 4 cm. in diameter. This cusp was divided into two almost equal halves by a medium raphe in the base of the cusp and a cord-like structure which began at approximately the point of a normal commissure and inserted into the sinus side of the cusp at a point about 2 mm. inferior to the superior margin. There was an aperture between this cord-like structure and the raphe which measured approximately 0.7 cm. in diameter. The posterior cusp at its inferior margin presented an aberrated area measuring 2.5 cm. by 1.5 cm. In the center of the aberrated area was an aperture measuring 2 cm. by 0.6 cm. This aperture communicated with a cavitation which extended superiorly for about 4.5 cm. between the aorta and the pulmonary artery. The sinus of Valsalva revealed an aperture communicating with the large ulceration, which had eroded into the tissues immediately inferior

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to the valve. Both cusps showed slight diffuse scarring. There were two aortic lesions immediately above the aortic valve. These were both transverse intimal lacerations, one measuring 2.2 cm. in the transverse diameter and the other measuring 1.5 cm. The ascending aorta appeared dilated, the circumference measuring 8.5 cm. There was a coarctation of the aorta at a point 2 cm. distal to the origin of the left subclavian artery and immediately distal to the insertion of the ligamentum arteriosum, which was occluded. The circumference of the coarctation was 0.4 cm. Immediately below the coarctation there was an elevated plaque in the center of which was granular vegetation. The left ventricular wall in the region of the interventricular septum measured 3 cm. in thickness, and laterally it measured 2 cm. The right ventricular wall measured 1 cm. in thickness.

### *Discussion*

The diagnosis of coarctation of the aorta was made when it was noted that femoral pulsations were not palpable. On the basis of probability the presence of a bicuspid aortic valve was also suspected. A careful search revealed no evidence of a superficial collateral circulation. The notching of the ribs, noted on x-ray, and the positive blood cultures respectively helped to confirm the diagnoses of coarctation of the aorta and subacute bacterial endocarditis. The dissecting aneurysm was not suspected clinically. The heart was known to be enlarged but the great extent of this was revealed only when the autopsy showed a heart weighing 1345 grams. At the time this patient was in the hospital penicillin was not available and none of the drugs administered seemed to have any influence on the course of the disease. The findings in this case, in addition to the large heart, were coarctation of the aorta, a bicuspid aortic valve, a healed dissecting aneurysm of the aorta, subacute bacterial endocarditis and endarteritis, ulcerative aneurysm of the heart, and diffuse fibrous pericarditis. It is our belief that the large heart in this case was secondary to coarctation of the aorta complicated by an insufficient bicuspid aortic valve with superimposed subacute bacterial endocarditis.

### *Comment*

For the classification, pathology, and pathogenesis of coarctation of the aorta, the reader is referred to the reviews of Abbott<sup>1</sup>

and of Blackford<sup>2</sup>. A patient with coarctation of the aorta is likely to die at any time from infective endocarditis, cardiac overstrain, or rupture of the aorta. Death in 14 (7 per cent) of Abbott's<sup>1</sup> 200 cases was by infective endarteritis with resulting mycotic aneurysm.

Congenital bicuspid aortic valves are relatively rare. The exact incidence of bicuspid aortic valves in consecutive autopsies has not been determined but is reported in the literature<sup>3</sup> to be about 1.4 per cent. In Abbott's series of 200 cases of coarctation of the aorta, bicuspid aortic valves were found in 25 per cent. Of males reaching adult life and having congenital bicuspid aortic valves, Lewis and Grant<sup>4</sup> found that 23 per cent die of active endocarditis. In an unselected group of 31 cases of subacute infective endocarditis, Lewis and Grant<sup>4</sup> found that 26 per cent had congenital bicuspid aortic valves. Abbott<sup>5</sup>, in a study of 555 cases of congenital cardiac disease of clinical significance, pointed out that the highest frequency of bacterial endocarditis is in malformed cusps. In her study there were 44 cases of fused semilunar cusps, 18 of which had bacterial infection. In the same series there were 46 cases of coarctation of the aorta, 7 of which had bacterial inflammation.

The literature contains few reports of extremely large hearts; there were found reports<sup>6, 7, 8</sup> of only 42 hearts weighing more than 1300 grams. The largest heart on record<sup>6</sup> is one which was said to weigh 5 pounds, but there was no clinical record on this case. Practically all hearts weighing over 1000 grams were found in males. Most of the earlier cases were found to have adhesions of the pericardium, but this finding has been infrequent in the more recent cases. The most predominant lesion was deformity of the aortic valve, with aortic insufficiency being the most frequent valvular change. Of the 200 cases of coarctation of the aorta



reviewed by Abbott<sup>1</sup>, increase in cardiac musculature and cavities, especially the left ventricle, was noted in 150. According to Abbott<sup>1</sup>, Bonnet believed that fully compensated coarctation of the aorta makes no extra demands on the cardiac reserve, and, that in the absence of complications, as myocardial and valvular lesions, no cause for hypertrophy exists so that it is never present in uncomplicated coarctation. Abbott's<sup>1</sup> work, however, does not support this belief, because in 70 of her cases of hypertrophy there was no mention of complications and in 20 it was stated that there was no complication. In uncomplicated coarctation there is cardiac strain produced by high blood pressure with resulting hypertrophy in some cases. Lewis<sup>9</sup> found no recorded cases of high blood pressure during life and a normal heart weight after death. He states, however, that it is not the rule in hypertensive cases of coarctation for the heart to be greatly enlarged.

### Summary

A case has been reported of marked enlargement of the heart associated with coarctation of the aorta complicated by a deformed insufficient aortic valve. Several other pathologic findings were present at autopsy. A brief comment has been made relative to the findings in the case.

### BIBLIOGRAPHY

1. Abbott, M.: Statistical Study and Historical Retrospect of 200 Recorded Cases, with Autopsy, of Stenosis or Obliteration of the Descending Arch, *Am. Heart J.* 3: 392-421 (June) 1928.
2. Blackford, L. M.: Coarctation of Aorta, *Arch. Int. Med.* 41: 702-735 (May) 1928.
3. Wechsler, H. F., and Gustafson, E.: Coarctation of Aorta, Congenital Bicuspid Aortic Valve, Subacute Bacterial Endocarditis, *Am. Heart J.* 14: 107-112 (July) 1937.
4. Lewis, H., and Grant, R. T.: Observations Relating to Subacute Infective Endocarditis, *Heart* 10:21-99 (April) 1923.
5. Abbott, M.: On Incidence of Bacterial Inflammatory Processes in Cardio-Vascular Defects and on Malformed Semilunar Cusps., *Ann. Clin. Med.* 4: 189-218 (Sept.) 1925.
6. Sedgwick, W.: A Case of Great Hypertrophy of the Heart, *Lancet* 2: 332-334, 1854.
7. Golden, J. S., and Brams, W. A.: Extreme Cardiac Enlargement, *Am. Heart J.* 13: 207-216 (Feb.) 1937.
8. Stacey, G. F., and Monroe, D. S.: Cardiac Hypertrophy; 42 Hearts Weighing 750 Grams or More, *Ann. Int. Med.* 13: 2253-2264 (June) 1940.
9. Lewis, T.: Material Relating to Coarctation of Aorta of Adult Type, *Heart* 16: 205-261 (June) 1933.

## SYMPATHECTOMY IN PERIPHERAL ARTERIAL DISEASE AND INJURY

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### *Anatomy of the Thoracolumbar Division of the Autonomic Nervous System*

The paravertebral ganglionated chains run on either side of the vertebral column from the base of the skull to the coccyx. There are commonly 24 ganglia in each chain. The chains fuse in front of the coccyx in the ganglion impar. In the thoracic and upper lumbar segments of the cord each spinal nerve on emerging from the intervertebral foramen gives off a white ramus communicans to its corresponding sympathetic ganglion. In addition to a small number of fibers of the somatic sensory type, these white rami carry the so-called preganglionic axons. Their myelinated fibers arise in the intermediolateral gray columns of the spinal cord, reach the spinal nerve over the anterior roots and end in a sympathetic ganglion in relation to a number of postganglionic neurons. The gray rami carry outgoing unmyelinated axons to the peripheral structures. The trophic cells of these fibers are situated in the sympathetic ganglia and their axons terminate in smooth muscle and glands throughout the body. In the case of the vasomotor, sudomotor and pilomotor fibers to the trunk and extremities postganglionic fibers take origin in the paravertebral ganglionated chains and thence through the gray rami rejoin the spinal nerves by which they are distributed to the periphery. It is important to remember that there are no white rami in the cervical, lower lumbar or sacral seg-

ments. While some of the preganglionic axons end in the paravertebral ganglion to which a given white ramus leads and others run through it to the splanchnic plexus, many others run upward or downward over as many as 3 to 6 ganglia in the paravertebral chain. Eventually each terminates in a ganglion in synaptic relation with a number of postganglionic neurons.

The postganglionic neurons leave these ganglia in two ways: (1) directly to the larger arteries of the trunk and extremities to form periarterial plexus, e.g., along the aorta, subclavian and iliac vessels. These plexuses do not descend far beyond the axilla and Poupart's ligament; (2) Gray rami run back into cervical, intercostal and lower spinal nerves and their axons are distributed in a segmental manner to the sweat glands, hair follicles and all the arteries of the trunk and extremities.

Insofar as is known there is no parasympathetic supply to the peripheral blood vessels.

#### *Segmental Level of the Vasoconstrictor Outflow*

Foerester<sup>1</sup> has stimulated ventral spinal roots on the operating table and made the following observations: Stimulation of the 1st and 2nd thoracic motor roots produced vasoconstriction of the face and neck but no vasomotor changes in the arm; stimulation of the 3rd to 7th thoracic ventral roots caused plethysmographic evidence of vasoconstriction in the upper extremity. White and Smithwick<sup>2</sup> state that postoperative tests have shown conclusively that when the sympathetic chain is cut below the 3rd thoracic ganglion, vasoconstriction and sweating persist in the upper extremity, but when in addition to section of the sympathetic trunk below the 3rd thoracic ganglion the second and third intercostal nerves are divided proximal to their sympathetic rami,

these functions are abolished. They have also found from surgical experience that the sympathetic outflow to the lower extremities apparently originates in the 11th thoracic to 2nd lumbar roots.

#### *Vasodilatation*

Concise knowledge of the vasodilator mechanism is still lacking. Dale's<sup>3</sup> discovery that adrenaline, after paralysis of the sympathetic constrictor endings by ergotoxine, causes a fall in pressure instead of a rise is cited as perhaps the best evidence for a separate system of sympathetic vasodilator nerves. The experiments of Lewis and Pickering<sup>4</sup> are said to provide clinical proof of sympathetic dilator fibers to the peripheral arteries. These investigators found that sympathetic ganglionectomy destroyed the power of peripheral arteries to dilate as well as to constrict. Their results have been questioned by Warren and his associates<sup>5</sup>, who found that local heat and sympathetic paralysis produced the same increase in blood flow in the hand. Local heat produces almost maximal dilatation. The fact that sympathetic paralysis produces nearly maximal dilation also indicates that most of the vessels supplying the hand are under the control of the sympathetic nervous system. The fact that complete blocking of the sympathetic produces full vasodilatation in the hand demonstrates that inhibition of sympathetic activity is sufficient to explain the vasodilatation which occurs in the hand when the body is heated. There is no necessity for postulating that the sympathetic nerves to the hand contain vasodilator fibers. In the forearm paralysis of the sympathetic and body heating produces an equal increase in blood flow. Here again there is no necessity for postulating the presence of vasodilator fibers.

There is some evidence that there are

dilator impulses transmitted anti-dramatically over the posterior root fibers, but White and Smithwick<sup>2</sup> state that from the available evidence they are apparently only active in certain functions, such as emotional flushing.

#### *Vasomotor Responses in Skeletal Muscle*

In view of the fact that skin temperature determinations are being so commonly employed to measure the circulatory efficiency in the extremities, it is important to determine whether or not it is an accurate and logical procedure. Siddons<sup>6</sup> recently emphasized the fact that while the vasoconstrictor activity of the sympathetic is well known, it is not so widely appreciated that the stimulation of the sympathetic supply to a limb while constricting the blood vessels of the skin and subcutaneous tissues, increases the blood flow in the muscles in all probability and sympathetic paralysis has the reverse effect.

Haskins, Gunning and Berry<sup>7</sup> found a number of years ago that in anesthetized dogs stimulation of the sympathetics reduced limb volume but if the limb was previously skinned the result of sympathetic stimulation was an increase in limb volume.

Plethysmographic measurements of blood flow to human limbs have been carried out by Grant and Pearson<sup>8</sup>, Kunkel et al,<sup>9</sup> and Abramson and Ferris<sup>10</sup> and they found that reflex sympathetic stimulation caused a decreased flow in the hands and feet but that the flow to the forearm and calf was often increased. Adrenaline was shown to have a similar effect to sympathetic stimulation by Grant and Pearson<sup>8</sup>, Kunkel et al<sup>9</sup>, and Wilkins and Eichna<sup>11</sup>. These workers suggested that this difference in response between the proximal and distal limb segments depended on the different responses of skin and muscle vessels.

Friedlander and his colleagues<sup>12</sup> esti-

mated blood flow by measuring temperature changes in the skin and muscle by means of the thermocouples and showed that reflex sympathetic stimulation reduced the temperature of the skin but did not reduce the temperature in the muscle. Sympathetic paralysis of the legs tended to produce a reduced blood flow to the muscles; with spinal anesthesia it was reduced in every case, while with paravertebral block it was reduced in seven of ten cases; in the remaining three there was an insignificant increase in blood flow. These investigators found that adrenaline and hypertonic saline increased blood flow to the muscles. Holling<sup>13</sup> also found that adrenaline increases blood flow to the muscles.

White and Smithwick<sup>2</sup> themselves state that "From the available evidence it appears that in the hands and feet where the skin constitutes a large proportion of the total volume, the reaction to painful stimuli and adrenaline is strongly vasoconstrictor. In the forearm and calf where the great bulk of the tissue is composed of muscle, sensory stimuli either have no effect or produce vasodilatation of voluntary muscle. Furthermore the vasodilator action of adrenaline is increased after sympathectomy. These observations, although requiring confirmation from more direct measurements of blood flow, indicate that the response of skeletal muscle to sympathetic impulses or sympathetomimetic substances is one of increased circulation."

Theis<sup>20</sup> pointed out that skin temperature measurements are poor indices of circulation due to many local reflex reactions in the capillary beds, and another source of error is the numerous arteriovenous anastomoses in the hands and feet. Atlas<sup>14</sup> pointed out that we cannot rely too



much on surface temperature measurements in evaluating the nutritive efficiency of the circulation through the feet. He states that surgically induced relaxation of flexible arteriovenous anastomosis in an ischemic foot may raise skin temperature but can shunt blood from the capillary bed in sufficient quantity to cause tissue necrosis and gangrene.

Kunkel and Stead<sup>15</sup> have shown that in both arteriosclerosis and thromboangiitis obliterans severe intermittent claudication in the calf was in some cases incapacitating, although the blood flow in the foot was as great as in many normal individuals. It is thus apparent that the presence of an adequate blood supply to the foot does not eliminate the possibility of obliterative disease involving the calf muscles.

From the foregoing it is apparent that skin temperature readings should be interpreted with considerable caution.

Sympathetic block has been recommended by Gage and Ochsner<sup>31</sup>, Elkin<sup>22</sup>, Smithey<sup>29</sup>, and others for the treatment of patients with lacerations of the large peripheral vessels, embolic occlusions and following ligations, on the basis that it relieves vasospasm in the collaterals due to a reflex mediated by the sympathetic nervous system. It is important to examine the evidence in this connection. Siddons<sup>6</sup> points out that it is well known that Volkmann's ischemic contracture is more common when there is a nerve lesion associated with an arterial lesion than when there is an arterial lesion alone. Cohen<sup>16</sup> suggested that this is because the nerve lesion prevents the sympathetic from constricting the skin vessels and thus directing the blood flow to the muscles. Holling's<sup>13</sup> work suggests that the increased blood flow to the muscles on sympathetic stimulation may not be a purely passive phenomenon, for as well as directing the blood from the

skin to the muscle, stimulation often actually increases the blood flow to the part.

Siddons<sup>6</sup> states that experience in the treatment of ischemic limbs after arterial wounds has shown that it is usually ischemic muscle rather than skin that determines the site of amputation. If the evidence presented is accepted it is clear that on theoretical grounds sympathetic block may do more harm than good in such cases. In individual cases where there is threatening gangrene of the toes or fingers and yet the muscle of the limb appears to have an adequate blood supply, sympathetic block may prove of value. Wounds in the wrist or ankle endangering the blood supply to the hand or foot are examples of such a contingency.

Leriche<sup>27</sup> has taught that arterial spasm is dependent on the sympathetic nervous system and he often recommended that the reflex arc should be broken by arterectomy or other methods. Cohen<sup>16</sup> and Bard<sup>18</sup> emphasize that there is no known reflex arc by which the sympathetic might operate to produce spasm. Cohen<sup>16</sup> believes it utterly impossible to explain by any local reflex why spasm may last for 20 minutes to 24 hours or longer and in some cases even after the limb is dying. Nerve conduction ceases within 15 to 20 minutes of any full ischemia. He also points out that the spasm may persist after sympathetic block (Foisie<sup>19</sup>, Seddon<sup>20</sup>, Homans<sup>21</sup>). The spasm may persist even in an amputated limb and spasm may be induced even while the surgeon is operating under spinal anesthesia.

Cohen<sup>16</sup> points out that it has become customary to regard the sympathetic as having an adverse effect on the return of the circulation after vessel ligation, in that it holds the collaterals in spasm. The sympathetic system is said to keep the

limb cold, and "physiological release" by plexus block or sympathectomy is urged. It is becoming evident from accumulation of evidence that the circulation to the skin and muscles may be independently regulated. The sympathetic system, by its control of the cutaneous circulation, is of great importance because it prevents the pooling of blood in a relatively unimportant area. It is thus probable that the cold limb said to be due to spasm of the collateral vessels is, in fact, a protective measure, and to dilate the skin vessels by forced heating or sympathectomy may not be helpful. "What avail if we save the skin and lose the leg?"

Elkin<sup>24</sup> in a series of 240 aneurysms and arteriovenous fistulas states that there were no instances of gangrene following operation. Sympathectomy or sympathetic block was rarely performed either before or after operation. The time injury preceded operation averaged 3 months, allowing ample time for development of collateral circulation. He states that had operation been performed at an earlier date sympathetic interruption would have been more frequently performed. Shumaker and Carter<sup>25</sup> in a series of 364 cases of aneurysm and arteriovenous fistula performed 77 sympathectomies. The only limb in which gangrene developed had been sympathectomized and similarly the only instance of ischemic paralysis following operative cure of an aneurysm was one in which symptoms developed following sympathectomy at the conclusion of the operation for cure of aneurysm. Cohen<sup>16</sup> states that it is rare for gangrene to follow ligation of a main vessel. He cites the report of Sencert (1918) who ligated 70 main vessels and in only 2 cases did gangrene develop (1 a common femoral and 1 a popliteal). He also cites the report of Makins (1922) who ligated the brachial

artery 200 times with only 8 cases of gangrene and these developed in cases with other sensory complications. Dr. Allen Whipple in discussing Dr. Elkin's paper<sup>22</sup> stated he had seen 8 cases of injury to the popliteal artery treated by paravertebral block and 7 had come to amputation. Of course, ligation of the popliteal is followed by gangrene in a high percentage of cases but it would appear from the above that blocking the sympathetic certainly is not followed by any dramatic results in the way of decreased incidence of gangrene.

Smithey<sup>29</sup> reports 3 cases of embolism treated by sympathectomy or block. One man was admitted 6 days following a saddle embolus with no evidence of gangrene but a cold skin. Following sympathectomy there was an increase of 14 degrees in skin temperature. Unfortunately gangrene developed 24 days postoperatively in one extremity. In the other 2 cases—1 of embolism in the popliteal and the other in the femoral—skin temperature increased but gangrene set in 14 days later in the first and spread in the second. Amputation was necessary in both cases.

Gage and Ochsner<sup>31</sup> report 14 cases treated by paravertebral alcohol injection. There were 4 cases of embolism to the femoral artery, 1 of mycotic aneurysm, of the femoral, 3 of aneurysm of the popliteal, 2 of femoral arteriovenous aneurysms, and 1 of popliteal arteriovenous fistula. There were no cases of gangrene.

White and Smithwick<sup>2</sup> report that with the usual medical treatment, major amputations were required in 74.2 per cent of 31 cases of thromboangiitis obliterans, while in 20 cases treated by nerve crushing and sympathectomy only 15 per cent required major amputations. de Takats<sup>26</sup> in a series of 50 cases of Buerger's disease performed sympathectomy and minor and major amputations for a total of

136 procedures with the result that 37 patients were able to do full-time work, 7 part-time work and 6 were invalids. The length of the follow-up period was not given. He admits that sympathectomy does not affect the course of the disease.

In contrast, Silbert<sup>27</sup> has followed more than 900 patients with thromboangiitis obliterans during the past 23 years. They have been treated with 5 per cent saline solution injected intravenously. Of this number 800 have improved under treatment, and in the great majority treatment is no longer necessary. A careful follow-up record has been kept. Most are known to be in good health and working at various occupations. No patient restored to good condition has ever had a recurrence of trouble or required amputation unless he resumed smoking. In the entire group of 910 patients only 60 amputations have been necessary (6.6 per cent). These were required only in those patients who were first seen at a stage when extensive ulcerations or massive gangrene were already present or in those who could not permanently refrain from smoking. de Takats et al<sup>32</sup> report the results of sympathectomy in 25 selected cases of arteriosclerosis. Of the 25 patients, 9 were troubled chiefly by intermittent claudication. All of these were able to walk farther following operation. Two showed more angina on effort since they could walk farther. Of 10 patients with impending gangrene not a single patient lost a limb on the sympathectomized side and 2 patients lost a leg which had not been operated upon. In 6 cases amputation was permitted at a lower level than they thought would have been possible from previous experience. Five patients with intractable pain, diffuse osteoporosis and glarry edema were subjected to sympathectomy with relief of pain and no loss of legs.

These workers state that a decided increase in basal blood flow following sympathectomy in arteriosclerosis must not be expected. They believe in contrast to White and Smithwick<sup>2</sup> that vasospasm plays little if any part in the symptomatology of arteriosclerosis. They believe the good results to be due to elimination of fluctuation in tone of the vasomotor apparatus, to the abolishment of reflex postural vasoconstriction in the extremities, and to the elimination of pain by doing away with any cross stimulation between sympathetic and demyelinated sensory fibers and to the elimination of pain caused by vasoconstriction.

Smithey<sup>29</sup> states that sympathectomy in Buerger's disease will relieve rest pain and claudication, forestalls gangrene and permits amputation at the lowest possible level. He thinks that the indications for sympathectomy in arteriosclerosis are impending gangrene, chronic ulceration and intermittent claudication. He had 9 cases of arteriosclerosis in his series. Of 5 cases with impending gangrene 3 did not develop gangrene; 1 developed a spreading gangrene two months following operation; 1 had had dry gangrene of the left 1st and 2nd toes and following alcohol block to prevent extension of the gangrene "despite a persistent rise in skin temperature of the denervated limb the gangrene advanced rapidly necessitating a supracondylar amputation." Two cases with ulceration healed and 2 cases with intermittent claudication obtained relief for about one year followed by a return of symptoms.

White and Smithwick<sup>2</sup> state that peripheral arteriosclerosis may at time be associated with enough vasospasm to justify sympathectomy. They report 10 cases with 16 involved extremities in which sympathectomy was done. Results were classified



as very good in 6 extremities, improved in 9 extremities and unimproved in one. Ridge-way et al<sup>28</sup> report 24 cases of arteriosclerosis subjected to lumbar sympathectomy. Eight were greatly improved, 9 improved, 3 not improved and 4 died. They noted that "sometimes, although the foot is warmer and drier and pinker following operation, and free from rest pain, there is no improvement in the intermittent claudication."

White and Smithwick<sup>2</sup> report the results of preganglionic sympathectomy in 93 upper extremities in patients with Raynaud's disease. Sixty-five cases showed very good to excellent results, 23 were improved and 5 were unimproved. The results depended chiefly on the degree of local fault at the time of operation. In 18 lower extremities in patients with Raynaud's disease the results were very good in all cases following preganglionic sympathectomy.

Telford and Simmons<sup>30</sup> have subjected 3 patients with erythromelalgia to lumbar ganglionectomy. In all of these pain was abolished and circulation in the feet returned to normal. Smithev<sup>29</sup> reports 1 case of erythromelalgia treated by sympathectomy. The pain was relieved for 6 months but recurred. No change in the skin temperature followed operation. This is added evidence that the presence of sympathetic vasodilator fibers is questionable. It is also of interest that the skin of the patients reported by Telford and Simmons<sup>30</sup> was in every case stated to be hot and dry. This would suggest underactivity rather than overactivity of the sympathetics.

It would appear from the clinical reports of cases subjected to sympathectomy in the treatment of arteriosclerosis and Buerger's disease, that intermittent claudication is often relieved. In addition rest pain, causalgic types of pain and the pain follow-

ing embolism are relieved in many cases.

The fact that this relief of pain in intermittent claudication is ostensibly one of the best arguments for the presence of vasoconstriction of an abnormal degree which is relieved by sympathectomy is worth considering.

In a normal individual during exercise the small vessels of the muscles dilate. The acid metabolites e. g., carbon dioxide, lactic acid, histamine like substances, etc., formed in the active muscles cause dilatation of their vessels. On the other hand, the rise in *pH* of the blood as a whole will act on the vasoconstrictor center to produce splanchnic vasoconstriction. Such an effect combined with the irradiation of impulses from cerebral centers will cause a general rise in blood pressure. The elevated arterial pressure combined with dilatation of the vessels within the muscles themselves leads to a maximum blood flow through active tissues.

It would appear to be a logical assumption that in occlusive organic arterial disease the cause of intermittent claudication is essentially a relative anoxia of the tissues, i.e., the muscles. The anoxia is brought about by the narrowing of the arteries by organic changes in their walls and their subsequent inability to carry a sufficient amount of oxygen to the tissues and carry away the waste products. de Takats and his associates<sup>32</sup> believe there is little if any vasospasm associated with peripheral arteriosclerosis. They also state that little increase in blood flow after sympathectomy can be expected. Evidence previously cited indicates that sympathectomy does not increase blood flow to the muscles. It is evident that skin temperature is elevated following sympathectomy. It is thus logical to assume that muscle blood flow is not increased and may be decreased by diversion of blood to the skin following

sympathectomy. Assuming this, it is difficult to explain why sympathectomy should increase the tolerance for exercise.

It might be explained upon the basis that the sympathetic tracts carry afferent fibers mediating pain, but this has been denied by Freeman and Montgomery<sup>33</sup> because they have produced the pain of intermittent claudication in some of their patients after sympathectomy by extending the period of exercise. Recent work cited by de Takats et al<sup>32</sup> postulating the possible production of pain by cross stimulation between sympathetic and demyelinated sensory fibers offers, however, a partial explanation.

#### BIBLIOGRAPHY

1. Foerster, O.: Operatif-experimentelle Erfahrungen beim Menschen über den einfluss des nervensystems auf den Kreislauf, z. ges. Neurol. Psychiat. 167: 439, 1939. Quoted by White and Smithwick (2).
2. White, J. C., and Smithwick, R. H.: The Autonomic Nervous System, New York, The Macmillan Company, 1941, p. 469.
3. Dale, H. H.: On Some Physiological Actions of Ergot, J. Physiol. 34: 163, 1906.
4. Lewis, T., and Pickering, G. W.: Vasodilatation in the Limbs in Response to Warming the Body: With Evidence for Sympathetic Vasodilator Nerves in Man, Heart 16:33, 1931.
5. Warren, J. V.; Walter, C. W.; Romano, J., and Stead, E. A., Jr.: Blood Flow in the Hand and Forearm after Paravertebral Block of the Sympathetic Ganglia. Evidence against Vasodilator Nerves in the Extremities of Man, J. Clin. Investigation, 21:665, 1942.
6. Siddons, A. H. M.: Sympathetic Block in Vascular Injuries, Lancet 2:77, 1945.
7. Haskins, R. G.; Gunning, R. E. L., and Berry, E. L.: The Effects of Adrenaline on the Distribution of Blood, Am. J. Physiol. 41:513, 1916.
8. Grant, R. T., and Pearson, R. S. B.: The Blood Circulation in The Human Limb; Observations on the Differences Between the Proximal and Distal Parts and Remarks on the Regulation of the Body Temperature, Clin. Sc. 3:119, 1938.
9. Kunkel, P.; Stead, E. A., Jr., and Weise, S.: Blood Flow and Vasomotor Reactions in the Hand, Forearm, Foot and Calf in Response to Peripheral and Chemical Stimuli, J. Clin. Investigation, 18:225, 1939.
10. Abramson, D. I., and Ferris, E. B.: Responses of Blood Vessels in the Resting Hand and Forearm to Various Stimuli, Am. Heart J., 19:541, 1940.
11. Wilkins, R. W., and Eichna, L. W.: Blood Flow in the Forearm and Calf. 1. Vasomotor Reactions; Role of the Sympathetic Nervous System, Bull. Johns Hopkins Hosp. 68:524, 1941.
12. Friedlander, M.; Silbert, S., and Biermann, W.: Regulation of the Circulation in the Skin and Muscles of the Lower Extremities, Am. J. M. Sc. 199:657, 1940.
13. Holling, H. E.: Observations on the Oxygen Content of the Venous Blood from the Arm Vein and On the Oxygen Consumption of Resting Human Muscle, Clin. Sc. 4:103, 1939.
14. Atlas, L. N.: Lumbar Sympathectomy in the Treatment of Peripheral Arteriosclerotic Disease, Am. Heart. J. 23:494, 1942.
15. Kunkel, P., and Stead, E. A., Jr.: Blood Flow and Vasomotor Reactions in the Foot in Health, in Arteriosclerosis and Thromboangiitis Obliterans, J. Clin. Investigation 17:715, 1938.
16. Cohen, S. M.: Thraumatic Arterial Spasm, Lancet 1:1, 1944.
17. Leriche, R.: Surgery of Pain, London, The Williams and Wilkins Company, 1940.
18. Bard, P.: On Macleod's Physiology in Modern Medicine, St. Louis, The C. V. Mosby Company, 1941.
19. Foisie, P. S.: Volkmann's Ischemic Contracture, New England J. Med. 226:671, 1942.

20. Seddon, H. J.: Personal Communication quoted by Barnes, J. M. and Trueta, J.: Arterial Spasm, an Experimental Study, Brit. J. Surg. 30:74, 1942.
21. Homans, J.: Vasomotor and Other Reactions to Injuries and Venous Thrombosis, Am. J. Med. Sc. 205:313, 1943.
22. Elkin, D. C.: Vascular Injuries of Warfare, Ann. Surg. 120:284, 1944.
23. Telford, E. D., and Simmons, H. T.: Erythromelalgia, Brit. M. J. 2:782, 1940.
24. Elkin, D. C.: The Treatment of Aneurysms and Arteriovenous Fistulas, Bull. New York Acad. Med. 22:81, 1946.
25. Shumaker, H. B., Jr., and Carter, K. L.: Arteriovenous Fistulas and Arterial Aneurysms in Military Personnel, Surgery 20:9, 1946.
26. de Takats, G.: The Value of Sympathectomy in the Treatment of Buerger's Disease, Surg. Gynec. & Obst. 79:359, 1944.
27. Silbert, S.: Medical Management of Peripheral Vascular Disorders, Bull. New York Acad. Med. 22:397, 1946.
28. Ridgeway, T., Cheney, W. E., and Moses, W. R.: The Operative Attack on Organic Peripheral Vascular Disease, Surg. 15:655, 1944.
29. Smithey, H. G.: An Evaluation of Sympathetic Nerve Interruption in a Variety of Surgical Conditions, South. Surgeon 12:1, 1946.
30. Theis, F. V.: Effect of Sympathectomy on the Collateral Arterial Circulation in the Extremities, Experimental Study, Surg., Gynec. & Obst. 67:737, 1933.
31. Gage, M., and Ochsner, A.: The Prevention of Ischemic Gangrene Following Surgical Operations Upon the Major Peripheral Arteries by Chemical Section of the Cervicodorsal and Lumbar Sympathetics, Ann. Surg. 112:938, 1940.
32. de Takats, G.; Fowler, E. F.; Jordan, P., and Riley, T. C.: Sympathectomy in Peripheral Vascular Sclerosis, J. A. M. A. 131:495, 1946.
33. Freeman, N., and Montgomery, X.: Lumbar Sympathectomy in the Treatment of Intermittent Claudication, Am. Heart J. 23:224, 1942.

#### AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

The next written examination (Part I) for all candidates will be held in various cities of the United States and Canada on Friday, February 6, 1948 at 2:00 P.M. Candidates who successfully complete the Part I examination proceed automatically to the Part II examination held later in the year.

A number of changes in board regulations and requirements were put into effect at the last annual meeting of the board held in Pittsburgh, Pennsylvania, from June 1 to June 7, 1947. Among these is the new ruling that the board does not subscribe to any hospital or medical school rule that certification is to be required for medical appointments in ranks lower than chief or senior staff of hospitals, or associate professorship in schools of medicine, for the obvious reason that such appointments constitute desirable specialist training. At this meeting the board also ruled that credit for graduate courses in the basic sciences which involve laboratory and didactic teaching rather than clinical experience or opportunities will be given credit for the time spent up to a maximum period of not more than six months regardless of the duration of the course.

#### NO PROOF YET THAT FLUORIDE TABLETS WILL REDUCE ADULT DENTAL DECAY

"At the present time there is no acceptable scientific evidence adequately controlled which would indicate that fluoride tablets taken by adults will or will not reduce the incidence of dental caries," it is stated in the October 4 issue of *The Journal of the American Medical Association* in response to a reader's query.

The case for fluoride tablets, says the article, rests on the fact that it has been shown that children calcifying their permanent teeth while using a domestic water containing about one part per million of fluoride have only about one-third as many dental cavities as comparable groups of children using a fluoride-free water. Evidence as to the effectiveness of synthetic fluoride preparations is still inconclusive, however.



# **THE JOURNAL**

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## **MEDICINE STILL AN ART AS WELL AS A SCIENCE**

Recently a surgeon removed a large gallbladder containing 131 small stones, and the specimen was sent to the laboratory. Before operation the patient had expressed a desire to see what was removed, but when the surgeon asked for the stones the next day, to show the patient, he was informed by the young pathologist in charge that he had thrown the specimen away. The surgeon had not asked that the stones be saved because he took it for granted that the matter would take such a course, in this hospital, at least for a few days. As he left the laboratory, not a little disturbed, he was told, "I can get you some more," a proposition which was not accepted.

From a medical standpoint this is a trivial incident, but not so to the patient. She and her husband had heard so much about gallstones that they wished to see samples, especially if they were removed from her body. When the doctor reluctantly told them of the loss, they were not a little upset and surprised. Of course the surgeon himself might be blamed for the occurrence, by not taking positive means to save the stones, but such an admission will not help bring out the point we are trying to make.

The point is that if this young man, recently graduated, had practiced medicine among private patients for a few years no one would have had to tell him to be sure and save the gallstones; he would have known it instinctively. His pathologic report on the gallbladder and stones may have been faultless, but when he failed to save

the stones for the inspection, or maybe the preservation, of the patient, he lost sight of the human element in his work. Actually seeing the stones would have had a favorable psychologic effect on the patient. Probably the pathologist had seen many more remarkable specimens than this one, but there could be no gallstones which possibly could mean as much to the patient as the ones he had thrown away. He should not be scolded for what he did. Added experience will teach him better. Many other disciples of Aesculapius have done, and will do, the same thing, and worse. The insignificant event, however, serves to remind us that medicine is still an art as well as a science.

In the beginning medicine was entirely an art, and remained so for thousands of years. There was but little science of any kind in the world, but gradually men began to organize their knowledge, and do experiments. Old text-books were entitled "The Art and Science" of this or that subject, art usually coming first. The addition of accessory instruments, like the microscope, hastened progress. John Hunter, his physician, Jenner, and a host of others like Pasteur, Lister and Koch became pioneers in placing medicine on a scientific basis, although art still played an important role in caring for the sick. Today, with increased knowledge of physiology, pathology and bacteriology, and the rise of specialism, medicine tends to become more a science, and less an art.

To obtain the best results with patients, however, physicians and surgeons cannot afford to overlook the human side of their profession. While the human body is compared with a complicated piece of machinery, and the comparison is logical to a certain extent, the body possesses qualities which cannot be imitated by man in any machine. There are intellect, emotions, habits, inheritance and environment to be reckoned with. It comes natural with some physicians to know how to handle such



things; others learn the hard way, or never at all. Often judgment and diplomacy of a superlative degree are required to cope successfully with the peculiarities and idiosyncrasies of the patient, although the scientific aspects of the case have been analyzed and interpreted perfectly.

As much as medicine owes to science, there are attributes to be cultivated by the doctor for which science has no counterpart. These are patience, kindness and sympathetic understanding, to be remembered by the patient long after he has forgotten the name of his disease, or the modern tests which were made to establish a diagnosis. What is said must not in any way be construed to minimize the value of science in medicine. Without it we would still be satisfied with "laudable pus," and be treating diphtheria with calomel.

But the on-coming generation of physicians must be taught that science is not the only factor to be employed in treating the sick. Patients are human beings, and sick human beings are not normal. They may be nervous, irritable, unreasonable and unappreciative. Such outbursts must be met with a smile and be considered as part of the case. From this one would infer that we all should know more about psychiatry, which is correct. Cheerfulness in word and manner is always in order, and may be an important influence in the patient's recovery. We cannot even dream of the marvelous achievements of the future, but whatever heights may be reached, so long as men have souls science in its greatest triumphs can never completely displace art in medicine.

FRANK K. BOLAND, M.D.

## MANY MATERNAL DEATHS DUE TO HEMORRHAGE ARE PREVENTABLE

"Hemorrhage today outranks all other single causes of maternal death in the United States," writes John Tottedale Cole, M.D., in the September 20 issue of *The Journal of the American Medical Association*. And yet, he reports, since the method of blood replacement now used at the Woman's Clinic of the New York Hospital has been adopted there has not been a single death from hemorrhage during 7,500 gynecologic operations. On the obstetric service only one death from this cause has occurred during 14,000 deliveries.

In his article Dr. Cole, who is a member of the Department of Obstetrics and Gynecology at Cornell University Medical College and at the New York Hospital, points out the general need for procedures similar to those used by his hospital in combating that dreaded complication of pregnancy: great loss of blood. "The basis of successful therapy," he writes, "is the rapid restoration of blood volume by the intravenous use of blood or plasma, preferably the former." Dr. Cole believes that fewer American women would die if the importance of the time factor were more generally appreciated. When blood transfusion is delayed abnormally low blood pressure can quickly progress to impending shock, impending shock to irreversible shock.

Among the practices of the Woman's Clinic of the New York Hospital which he emphasizes are:

- Determination of the blood group and the Rh type of all patients at their first "before delivery" visit.

- Cross matching of the blood of all patients before delivery if it appears that a large loss of blood may occur. One or more pints of blood will then be held on call for immediate use at the central blood bank—or, in case of Cesarean section, in the operating room itself.

- Measuring the patient's loss of blood as it occurs, so that it will not be underestimated.

- When hemorrhage has occurred, shortening the duration of anesthesia by avoiding surgical procedures which can be postponed.

- Keeping a small obstetric blood bank for emergencies on the delivery floor itself in addition to the large, active, general blood bank. The blood in the small bank should be of a type which may be used for any patient without preliminary typing or cross matching.

- When an exceedingly large volume of blood has been lost, rapid replacement by a simple pressure mechanism added to the ordinary transfusion apparatus. In such cases the drip method of transfusion is too slow.

- The administration of alkali agents to combat transfusion reactions and to delay the onset of irreversible shock until enough blood and plasma are available.

"Since the method was adopted," Dr. Cole concludes, "there have been no deaths from

*The JOURNAL would like to record the scientific work of Georgia physicians. It earnestly requests, therefore, that each physician in the State who publishes a contribution in some other medical periodical submit an abstract of the article for these columns.*

hemorrhage during 3,600 major and 3,900 minor gynecologic operations. On the obstetric service one death due to hemorrhage has occurred during 14,000 deliveries. While the method has been in use there have been 250 postpartum hemorrhages."

### SODIUM AMYTAL HELPS RESTORE SPEECH AFTER BRAIN INJURIES

*Neurologist Suggests Its Use To Explore  
Psychologic Component In Many  
Organic Brain Diseases*

Sodium amytal, the sedative and hypnotic extensively used in psychiatric practice to make patients talk more freely, may also help patients who have lost their powers of speech following physical injury to the brain centers, according to a member of the Neurological Service of the Mount Sinai Hospital, New York.

Writing in the current issue of *Archives of Neurology and Psychiatry*, published by the American Medical Association, Louis Linn, M.D., says that he and a fellow neurologist first observed this effect while on military duty in North Africa during the war. Men suffering from an impairment of speech after being wounded in the brain by shell fragments improved "suddenly and dramatically" when the drug was injected into their veins, and in some cases the improvement was sustained long after the effects of the sodium amytal had worn off.

From his civilian practice Dr. Linn describes two similar cases. In the first, a woman had had a brain operation which left her with paralysis of one side of the body associated with aphasia (a defect or loss of the power of expression by speech, writing, or signs, or of comprehending spoken or written language). She reacted by emotional outbursts, and in conversations became quickly exhausted and discouraged. Given a group of simple tests to perform which included naming objects and indicating what they were used for, under the influence of sodium amytal she cheerfully completed in a few seconds the tasks which before had taken minutes of painful, futile struggle. She was also able to sustain her attention and energy output over a long period of time.

In the second case, a patient with a blood clot in the brain suffered from the same effects. The paralysis cleared up, but the aphasia persisted. "The patient was practically mute," Dr. Linn writes. "She was given an intravenous injection of sodium amytal. . . . A striking improvement in her speech resulted. However, as the effects of the drug wore off she lapsed into her previous state of mutism. With repeated injections, the ability of the drug to produce this transitory improvement was gradually lost.

At this time the patient is, once again, practically mute."

"It has long been known that many cases of impairment in cerebral function have an emotional overlay," Dr. Linn concludes. "The aphasic person who cannot speak the words of a verse can sometimes sing them, and in response to sufficient emotional pressure may be able to utter expletives which he cannot speak as single words. . . . Obviously, sodium amytal does not reverse an organic process. However, its use in the manner described not only may make it possible to hasten the rehabilitation of patients with post-traumatic aphasia (aphasia following an injury), but may afford opportunities to explore the psychologic component in many apparently hopeless cases of organic disease of the brain."

### EPILEPTIC PATIENTS IMPROVED MOST BY DIET, SAYS PHYSICIAN

Diet, not drugs, is the most important factor in the treatment of children who have epileptic convulsions, says Haddow M. Keith, M.D., Rochester, Minn., in the current issue of the *American Journal of Diseases of Children*, published by the American Medical Association.

A member of the Section on Pediatrics at the Mayo Clinic, Dr. Keith came to this conclusion after studying a large number of epileptic patients at the clinic who were treated with drugs, with a diet consisting chiefly of proteins and fats (no sugars or starches), and with both drugs and diet. A larger proportion of those in the last two groups either recovered or were improved.

Epilepsy is a disturbance in the rhythm of the brain from which one person out of every 200 in the United States is known to suffer. There is a recognizable epileptic rhythmic pattern, and in studying the brain through electroencephalography this pattern has been found in a great many individuals who show no signs at all of having convulsions. In some cases obvious damage to the brain is held responsible for the disease, but usually it seems to be caused by disturbances of body chemistry about which not very much is known. Epileptic attacks are most common in children, and may decrease, become less severe or disappear in later life even without treatment. These attacks take the form of grand mal, in which the sufferer loses consciousness, twitches and gets blue in the face; petit mal, in which the blacking-out of consciousness lasts for only a few seconds; psychomotor attacks, in which the sufferer seems to be conscious but doesn't remember afterwards what has happened; or Jacksonian seizures, characterized by an uncontrollable jerking limited to one side of the body.

In Dr. Keith's study two groups of patients were selected. The first group consisted of 300 consecutively admitted patients with epilepsy who were examined at the Mayo Clinic in 1940



or 1941 and for whom treatment was started at the time of the examination. One hundred eighty-seven of these patients reported from time to time until 1945. All of these had grand mal or petit mal or both, and all were treated either with diphenylhydantoin sodium and phenobarbital, alone or in combination, with the diet already mentioned or with a combination of the diet and the drugs. Where the diet was used it was maintained until the patient had been free of attacks for one year or more. It was then gradually changed to a normal diet, usually with a moderately limited amount of carbohydrate. When drugs were used in addition to the diet they were usually continued after the change in diet had been made.

Thirty-eight of the patients suffered from definite brain damage, and less than one half of these were affected in any way by treatment. In those who improved the drugs seemed to have had more effect than the diet. Of the remaining 149 without obvious brain damage, however, approximately 27 per cent of those receiving the diet remained completely free of attacks for period of from one to five years. Only about 12 per cent of those who received drugs but no diet remained well.

Dr. Keith's second group included all of the 311 patients started on treatment with the diet, alone or with drugs, at the clinic during the period from 1921 to 1930 inclusive. Their records were studied up to and including 1945. Of these, 190 patients had no obvious brain damage and gave the diet a fair trial. More than one half of the 190 patients improved; 67, or 35 per cent, remained completely free from attacks for periods of from four to 22 years; and 33 remained well for 15 years or more. Patients with grand mal alone were most favorably influenced by the diet, those with petit mal alone were rather less favorably influenced and those with both grand and petit mal were the least definitely benefited.

#### MORE OPERATIONS FOR STOMACH CANCER EACH YEAR; FEWER MORTALITIES

Over a ten-year period the percentage of operable cases of cancer of the stomach, which ranks second only to cardiovascular disease as the commonest cause of death in the United States, has steadily risen. During the same period the percentage of cases in which surgeons recommended gastric resection—involving the removal of part or all of the stomach—has also increased. At the same time, the mortality rates for operation have dropped remarkably.

These facts are revealed in the October 4 issue of *The Journal of the American Medical Association*, in which David State, M.D., George Moore, M.D., and Owen H. Wangenstein, M.D., all members of the Department of Surgery of the University of Minnesota Medical

School, report a ten-year survey of the results of surgical treatment of gastric cancer at the University of Minnesota Hospitals.

However, the three doctors also report a decrease in the percentage of operations which actually cured the disease, due to the ever-increasing number of resections undertaken for temporary relief after the hope of lasting cure was gone. "The only way in which the end results may be improved is by earlier diagnosis," say the writer.

The total number of patients included in this survey was 586, and the average age was 63.2 years. (Nineteen patients were in the last stages of their disease when first seen.) The number of patients operated on was 447. A partial gastric resection was performed in 276, a total gastric resection in 31. A summary of the results shows that:

—In 1936 the operability and resectability rates were 57 per cent and 28 per cent, whereas in 1945 these rates were, respectively, 88 and 30 per cent. The resectability rate for 1945, based on the number of patients explored, was 39.7 per cent.

—The mortality rate for partial gastric resection in 1936 was 25 per cent, while in 1945 it was 4.9 per cent—a figure which includes both total and subtotal gastrectomy.

—The over-all mortality rate for partial resections was 15.2 per cent, for total gastric resections 30 per cent. Of those who survived resection and whose resections took place long enough ago to be included, 29.4 per cent survived three years or more, 21.5 per cent five years or more.

#### PROGRAM FOR GENERAL PRACTITIONERS AT A.M.A. CLEVELAND SESSION

In addition to technical and scientific exhibits, a program designed particularly as postgraduate education for general practitioners will be presented at the supplemental session of the American Medical Association in Cleveland, Ohio, January 5-9, 1948.

The Council on Scientific Assembly, whose chairman is Dr. Henry R. Viets of Boston, has prepared a program which will include papers, panel discussions and symposia on many of the topics now most prominently before members of the medical profession. Among the topics to be covered are peptic ulcer; blood dyscrasias (any abnormal composition of the blood); the chronic invalid; posthospital care of patients with cancer; treatment of the fat and the lean; cancer of the prostate; the use of BCG (*Bacillus Calmette Guérin*) vaccine in the prevention of tuberculosis; uterine hemorrhage; multiple injuries in automobile accidents; the treatment of pathologic conditions in adolescence; the treatment of the healthy and sick diabetic patient; jaundice; the Rh factor; and the interpretation of x-ray films of the chest.

During the first two days of the session the Council on Industrial Health of the American Medical Association will conduct a program devoted particularly to problems in its field.

Planned for the Scientific Exhibit is a demonstration of the operation of a diagnostic cancer clinic, in which visiting physicians will be given the opportunity to undergo themselves the routine of such an examination.



## GEORGIA DEPARTMENT OF PUBLIC HEALTH

### RABIES CONTROL IN GEORGIA

Because of the prevalence for many years of rabies throughout the State, Rabies Control Act No. 406 was passed by the Legislature in 1945. This Act was designed to control and if possible eradicate the disease in the State. It was sponsored by the Georgia Department of Public Health, the Georgia Veterinary Medical Association, other organizations, and private individuals.

In accordance with the provisions of this Act, the Georgia Department of Public Health shall act in an advisory and organizational capacity and shall furnish official dog rabies tags and certificates of vaccination.

The County Board of Health in each county is given entire responsibility for the enforcement of the Act. This includes the appointment of a rabies inspector, establishment and maintenance of a dog pound, prosecution of individuals for non-compliance, establishment of animal quarantine or destruction and other measures as may be deemed advisable. One of the principal features of the Act is that all dogs over three months of age shall be vaccinated against rabies once each year.

Rabies is a virus disease which, while primarily affecting the dog, is infectious for any warm-blooded animal, including man. The virus is eliminated from the body of infected animals through the salivary glands and thence through the saliva. Carnivorous animals such as the dog, cat, fox, wolf, and coyote, are the principal transmitting agents. This is true because of their biting habits and vicious characteristics when infected with rabies and the fact that their teeth are designed by nature for tearing and crushing their food. Wounds caused by the teeth of carnivorous animals are frequently quite severe and dangerous. Human exposure from domestic animals, horses, mules, cattle, and hogs, is relatively rare although during epidemics they die of rabies in large numbers.

It should be emphasized that infection can only be transmitted by contamination with fresh saliva of a fresh wound made by the teeth of an actively infected animal. It cannot be transmitted through the meat or milk of rabid animals. Rabies virus is strictly neurotropic and cannot live long outside the animal body. It is killed in a very short time by exposure to air, sunlight and chemicals. The greatest danger is by wounds caused by the teeth of infected animals, particularly carnivora.

Rabies is primarily an animal disease and as such is usually of interest only to the livestock interests of the State. However, since a large number of persons are annually exposed either directly or indirectly to infected animals to the extent that they require antirabic treatment, and a few die of rabies, it becomes a health problem as well as an agricultural one.

The dog is the principal vector of rabies virus. Therefore, because of his close association with family life he is responsible for most human exposures. Rabies is entirely of animal origin and can be controlled in man only by elimination of the disease in animals.

For the past several years rabies has been endemic in dogs and domestic animals in most of the State except the northeastern section, which, for some unexplained reason, has been free of the disease other than an occasional rabid dog. Control measures have been confined largely to the dog, and in recent years to the fox. Intensive dog vaccination campaigns have been instituted in infected areas coordinated with destruction of stray or unvaccinated animals. In areas where the infection has become epidemic in foxes, organized trapping, hunting and poisoning programs have been carried out under the supervision of the State and Federal Fish and Game Commissions. Fox control is greatly aided by nature since frequently the disease itself will almost exterminate the fox in infected areas.

State-wide control measures have been in effect since July 1945 and it appears pertinent to review the present status of the disease.

TABLE I

<i>Number of Positive Heads Examined</i>				
<i>Year</i>	<i>Dog</i>	<i>Fox</i>	<i>Others</i>	<i>Total</i>
1942	432	6	50	488
1943	449	9	70	528
1944	403	59	65	527
1945	401	113	98	612
1946	367	241	132	740
*1947	237	50	74	361

TABLE 2

<i>Human Prophylactic Treatments and Deaths from Rabies</i>		
<i>Year</i>	<i>Treatments</i>	<i>Deaths</i>
1942	2130	4
1943	2296	1
1944	2784	4
1945	2426	5
1946	1735	3
*1947	1040	1

Table I shows the incidence of the disease in animals from 1942 through August, 1947. Rabies in dogs remained fairly constant although some decline occurred in 1945, 1946, and 1947 during which time the control program has been in effect. Fox rabies became increasingly prevalent in 1944 reaching epidemic proportions in 1945 and 1946 with a corresponding increase in domestic animals.

Table 2 shows the number of human prophylactic treatments and deaths from rabies for the corresponding period, 1942 through August, 1947. The number of antirabic treatments re-

\*Report through August, 1947.

mained fairly constant from 1942 through 1945 with a decline in 1946 and a further decline in 1947. It is of interest to note that of the total antirabic treatments administered in 1946, the bites of rabid foxes were responsible for 106 of these. The decline in the number of antirabic treatments administered in 1946 and 1947 may be attributed in part to the decline in rabies in animals and in part to administrative policy.

Fulton County and the City of Atlanta have always had a large dog population. For many years the incidence of rabies in this dog population has been high with a corresponding high incidence of dog bites by rabid or suspected rabid animals. A dog license of one dollar per head has been in effect in Atlanta for many years. The city council adopted an ordinance effective January 1, 1947 requiring all dogs to be vaccinated and confined to the owner's premises or on leash. Fulton County recently adopted a county-wide compulsory vaccination and license law. Dog wardens in trucks pick up stray dogs which, in most instances, are destroyed. This removes the stray dog which is the principal disseminating agent. Bibb and Muscogee counties adopted the same programs. Rabies is practically non-existent in Bibb and Muscogee counties but is still endemic in the general area in and surrounding Atlanta. However, the Atlanta area still has an estimated dog population of about 60,000, many of them homeless, which complicates control measures. Sporadic outbreaks occur from time to time in isolated communities throughout the State but the epidemic is over for the present. This year there has been a very decided decrease in the number of human dog bites and antirabic treatments administered in the areas noted above. This should be credited largely to the control programs in effect in these areas.

Another contributing factor in the decrease of antirabic treatments is the attitude with respect to treatment assumed by the Georgia Department of Public Health and physicians throughout the State. In the past, antirabic treatment was considered harmless and many people were given treatment for the most indirect exposures. Administration of rabies vaccine may result in sensitization of the patient to the vaccine. If it is necessary to repeat the treatment at some future date, severe local or systemic reactions may occur. In a few cases this reaction has resulted in the death of the patient, not from rabies but from an allergic reaction affecting the nervous system.

For the past year we have been recommending that no treatment be given following bites through clothing when the cloth was not torn, from nail or claw scratches, saliva contamination of old wounds which have begun to heal, or other indirect exposures. Treatment is recommended following tooth bites with hemor-

rhage by known rabid or suspicious animals. Persons who have had one or more series of antirabic treatments are retreated only following severe wounds by known rabid animals and then with caution, limiting the treatment to a short booster of not more than 6 doses.

The reduction in the number of human exposures to rabid animals and careful selection of cases receiving treatment have very materially reduced the number of human treatments administered.

Although the rabies problem is not solved, we believe that progress is being made. Active interest is being manifested by groups such as the U. S. Public Health Service, the various State Departments of Health and Agriculture, the U. S. Livestock Sanitary Association, The American Veterinary Medical Association, and the various State Veterinary Medical Associations. One of the greatest handicaps to a rabies eradication program is that the U. S. Bureau of Animal Industry cannot use funds for control of any disease of the dog because that animal is not officially classified as a domestic animal. We need a federal agency which can coordinate an eradication program in all the states in which the disease exists. Rabid animals do not recognize state boundaries.

L. E. STARR, D.V.M., Ph.D., *Veterinarian*,  
Georgia Department of Public Health.

## HEALTHGRAMS

Lest the young enthusiast be inclined to rest on his laurels, a review of the first decade of X-ray progress will bring with it a humble frame of mind. It is amazing that the early investigator who unknowingly risked his life with the crudest of makeshift equipment produced so much. Between the years 1895 and 1901, Francis H. Williams, William Rollins and Walter B. Cannon, to mention just a few, outlined many of the fundamental diagnostic and therapeutic criteria used today. It was Williams who threw a bombshell into a meeting of a medical society by maintaining that he could discover pulmonary tuberculosis by this new method earlier than by auscultation and percussion. In 1901 Williams' reports of cases treated by X-ray would put many modern physicians to shame because of their completeness. They contained a good history and description of the lesion, a biopsy done by Frank B. Mallory, detailed data of the technic used, extensive progress notes and photographs taken before and after treatment to document his results. *Ed., N. E. Jour. Med., Nov. 8, 1945.*

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For over sixty years it has been known that tubercle bacillus is the cause of tuberculosis, and that it should be looked for in the sputum of patients with respiratory infections has become axiomatic. Notwithstanding this common knowledge, physicians very often lose valuable time treating tuberculous patients for colds, bronchitis, or asthma, and they may even have tonsils removed because of cough before a specimen of sputum is examined for tubercle bacilli. Henry D. Chadwick, M.D. and Alton S. Pope, M.D. *The Modern Attack on Tuberculosis*, The Commonwealth Fund, Revised, 1946.



## WOMAN'S AUXILIARY TO THE MEDICAL ASSOCIATION OF GEORGIA

## AUXILIARY NEWS

As the Woman's Auxiliary to the Medical Association of Georgia nears the completion of the first half of this Auxiliary year, it is not only facing a new age in its own history but a new age in the history of our country and of the world. The past few years have produced the most significant changes in history and especially in medicine and conditions relating to it. Never has there been a time so interesting, so full of opportunity as this today.

The health of the people of a nation determines the general welfare of a country, therefore the promotion of better health conditions is a most important step in the civilization of today. The Auxiliary can contribute much toward this through cooperation and unity of its members in presenting health ideals and principles to the public at large under the guidance of their husbands who make up the Medical Association of Georgia.

Especially can the Auxiliary do excellent work in the field of public relations. It is most important that the prestige of the family doctor be restored and preserved, for after all the general practitioner is the foundation of all medicine. We, as their wives, can do much in this direction. It is my hope that the Auxiliary will be looked upon by fellow citizens and all civic organizations as a group with whom they may always work in perfect harmony.

The Auxiliary provides a delightful opportunity for pleasant fellowship. It enables you to know your fellow members, to derive from them helpful ideas, and by perfect accord within the organization to emphasize the high standards and ideals of the medical profession and the Woman's Auxiliary as its ally.

The success of any organization depends upon its growth, and growth depends more upon the unit of its members than upon any other one thing. From unity naturally comes growth. Thus it is most necessary that we make every effort to aid in every possible way in the promotion of the program of our organization and that we try to really contribute something worth while toward its growth through the carrying out and enforcement of its objectives.

Be mindful of your duties as Auxiliary members. Turn your faces forward, for the time has come for the forward march. Let's endeavor to make this year the best year in the way of accomplishment that the Woman's Auxiliary has ever known.

MRS. W. G. ELLIOTT.

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*Health Education*

As doctors' wives, ours is a delicate situation during these times of impending legislation and aroused public interest in what medicine has to offer as an alternative. Thus it behooves us

to select visual education as our main method for transmission of health information rather than oral dissemination.

Health education is boundless in scope, and so I urge you to encourage cooperation between various health chairmen in your county auxiliaries. There is no limit to the need in each phase of health education and for the most accomplishment for efforts expended, coordination is invaluable. Suggestions, as far as membership permits, for a health committee are:

Health Education Chairman

Visual Education Chairman

Hygeia Chairman

Public Relations Chairman.

This health committee will be called upon by local organizations for a health program. I refer you to visual education chairman Mrs. Carl S. Pittman's letter for information as to films, projectors and sound track procurement. Surely our visual health programs are relationships with the public and should have the cooperation of the public relations chairman. Mrs. Dewey Nabors, state public relations chairman, will supply suggestions. At such public meetings it is fitting that the Hygeia Chairman have the privilege of presenting to the public the opportunity of subscribing to the American Medical Association's official lay publication—Hygeia. This magazine also is a definite aid in educating the public and has its place in health education. Refer to Hygeia chairman Mrs. W. D. Hall's letter for information.

Auxiliary sponsored local radio health programs prepared by the American Medical Association Bureau of Health Education, and one public health meeting during the year, are certainly worthy of consideration by your own county medical society advisory committee and are recommended by your state auxiliary health education chairman. You will receive by mail radio handbooks and literature concerning programs for the "Air."

If it is feasible to instigate a Health Day in your community in collaboration with your Chamber of Commerce or civic leaders, planned programs can be sent you.

Above all, we must take a part of leadership in any health advancement program, bearing in mind our opportunity to serve as good will ambassadors for the profession with which we are so closely allied.

MRS. SHELLEY C. DAVIS.

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Congratulations to DeKalb County for its reorganization just before the convention. Dr. and Mrs. Lawrence P. Matthews entertained the DeKalb County Medical Society and Auxiliary at a dinner for the first fall meeting. Mrs. Mansfield from the DeKalb Chapter of the



American Red Cross spoke on occupational therapy.

After dinner the physicians had their regular monthly meeting with Dr. T. E. McGeachy, president. At the ladies' meeting Mrs. T. E. McGeachy, president, presided. She and Mrs. Robert Crichton gave reports on the August conference, and Mrs. Crichton reported on the Fifth District meeting. There were thirteen doctors' wives present.

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A terrace luncheon served at the Marietta Country Club and given by the president of the Woman's Auxiliary of Cobb County Medical Society, Mrs. Murl Hagood, marked the fall quarterly meeting.

A letter from Mrs. W. G. Elliott, state president, was read dealing with the year's objectives. Dr. James Brawner, Sr., of Atlanta, was guest speaker.

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Mrs. M. T. Edgerton, president of the Fulton County Medical Auxiliary, and Mrs. Shelley Davis, state health education chairman, are planning a forum with panel discussions for the annual program with principals of schools and P. T. A. presidents and health chairmen as guests. Panels will be held on Nurses' Education, Slum Clearance, Family Relations and Pasteurization of Milk. Luncheon will be served at the Academy of Medicine. Dr. B. H. Minchew, of Waycross, state chairman of the volunteer prepayment medical plan, will speak to the assembly.

#### EIGHTH ANNUAL CONGRESS ON INDUSTRIAL HEALTH

The Council on Industrial Health will hold its Eighth Annual Congress on Industrial Health in the Cleveland Auditorium, Cleveland, on January 5 and 6, 1948. These dates immediately precede the Interim Session of the American Medical Association, which will be held in the auditorium on January 7 and 8. General practitioners supply a large part of the medical services which workers receive through industry, and they are cordially invited to attend these industrial health sessions. The program of the congress is being constructed with general practitioners in mind and will include discussions of first aid and emergency services in industry, physical examinations, administrative practices, applied physiology, aviation medicine, radiation medicine and practical expositions of occupational disease management, traumatic surgery and rehabilitation. Since full use of medical services in industry depends on support from management and the worker, the essential relationships will be discussed. Industry needs medicine as a practical ally and to promote human relations. The Industrial Health Congresses are intended to further these objectives.

#### KNOW YOUR DOCTOR

When the armed forces took thousands of American doctors away from their civilian patients, the American public realized the extent to which, in these days of modern living, it is dependent on its physicians.

Even when there is no illness, the doctor is the person to turn to when trouble, physical or mental, suggests need of a counselor.

If you think that out, you'll realize that, because

your doctor has assisted in some catastrophic event in your life, you have learned to depend on him. His knowledge, his skill and, in many instances, his tenderness and sympathy have pulled you or some loved one through an ordeal that was momentous in your life.

There are few homes that have not been touched by tragedy—death does not play politics—it favors no one. Birth is slightly different—it sometimes shows partiality.

Your doctor, in general, officiates at birth and at death. And all the time in between your doctor is there to help you, a Health Talk made public by the Educational Committee of the Illinois State Medical Society pointed out.

The actors portray their parts—they make the play—but it is the person who conducts or directs who brings out the color.

In the drama of life, with you as the actor, it is your doctor who, from the sidelines, makes you real—a healthy person, a strong person. He guards your emotions and controls them.

Yet, acknowledging all this, you question him and, in many instances, you distrust him.

But think of his side. Three years of premedical work start the study of medicine. Four years of medical school, one year of internship, one year of residency and frequently two and even three years of special training—nine to twelve years in all—go into the long preparation for his career of medicine. And sandwiched in between his internship and his residency are the arduous examinations set up by the state so that he may prove qualified to treat you and your family. The minimum years of study, without the extra training, costs \$10,000. And that is only the beginning: as long as he lives he is studying at his own expense to be a better doctor.

Understand your doctor. Know him well. In Illinois, there has never been a law passed in the legislature that was not watched and fostered carefully if it benefited you and your health needs. Your doctor has ever opposed movements of any kind when careful investigation disclosed them to be detrimental to mankind.

In the little town, community or large metropolis, the doctor of medicine plays an important part in human activity. He is always there to guide and counsel. He will forget himself and his own fatigue to give you the attention you seek.

Understanding your doctor, knowing him, appreciating him, will help him to know you. Trust in your doctors pays large dividends.

#### MEDICINE IS MOST POPULAR PROFESSION WITH GERMAN UNIVERSITY STUDENTS

More German university students want to take up medicine than any other profession, according to the Berlin correspondent of *The Journal of the American Medical Association*, writing in the October 18 issue of that publication. He states that this is particularly true in the American and Russian zones of occupation.

The number of registered medical students in the four zones is: American, 10,714; British, 6,430; French, 2,887; and Russian, 3,336 plus an unknown number from Rostock and Greifswald which do not give official figures.

At present, however, the writer reports that many universities do not admit first year medical students. The chief difficulties are (1) the destruction of many of the university buildings, institutes, clinics and laboratories; (2) a shortage of textbooks, with those of a generation ago often the best available sources of instruction; (3) lack of housing.

"The percentage of women students is higher in the Russian zone than in western Germany," the correspondent adds. "In Berlin, for example, women constitute 40 per cent of the total, with an absolute majority at the Medical and Philosophical Faculties. In 1932 only one fourth of the students were women."

## NEWS ITEMS

The Bibb County Medical Society held its regular meeting at Ridley Hall, Macon, October 7. Dr. W. W. Baxley had charge of the program. Dr. A. M. Phillips, secretary.

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Dr. Edward L. Askren, Jr., Atlanta, announces the opening of his offices for the practice of ophthalmology, suite 517 First National Bank Building, Atlanta.

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Dr. Randall G. Brown, Swainsboro, was recently advised by Dr. B. T. Beasley, secretary of the South-eastern Surgical Congress, that he has been accepted for a senior fellowship by the credentials committee of the State and by the executive council of the Congress. Convocation exercises will be held at the next Congress Assembly to be held at Hollywood, Florida, April 5-8, 1948.

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Dr. Tom Edmundson, Decatur, was recently relieved of his duties as senior medical officer aboard the USS Creon. While aboard the Creon, Dr. Edmundson participated in the atomic bomb tests held last year at Bikini Atoll, Marshall Islands. Dr. Edmundson is stationed at the U. S. Naval Hospital, Dublin.

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The Eighth District Medical Society met at the Valdosta Country Club, Valdosta, October 14. Dr. W. W. Turner, Nashville, president, presided. Dr. Robert Stump, Jr., Valdosta, served as secretary in place of Dr. G. T. Crozier, who was absent. Program: Invocation by Dr. Bennett G. Owens; Welcome address by Dr. A. G. Cleveland, superintendent of the Valdosta City School System; Scientific paper, "The Treatment of Infected Gallbladders," Dr. Charles Jones, Atlanta. Officers are: Dr. D. A. Jardine, Douglas, president; Dr. H. A. Seaman, Waycross, vice-president, and Dr. G. T. Crozier, Valdosta, re-elected secretary.

The Woman's Auxiliary of the Eighth District Medical Society met at the Daniel Ashley Hotel, Valdosta, October 14.

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The Georgia Medical Society held its regular meeting at the society's hall, 612 Drayton Street, Savannah, October 14. Subject: "The Control of Muscle Spasm and Arthritic Pain Through Block at the Nasal Ganglion and the Use of Adenylic Nucleotide," by Dr. Jules Victor. Dr. G. H. Johnson, secretary.

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The Georgia Chapter of the American College of Surgeons held a one-day meeting at the Sheraton-Bon Air Hotel, Augusta, October 31. Program; Registration; Address of Welcome by Dr. Edgar H. Greene, Atlanta, president-elect of the Medical Association of Georgia. Dr. Charles H. Watt presided at the morning session, which included addresses by Dr. Edgar R. Pund, Dr. Perry P. Volpito, Dr. Robert Greenblatt, Dr. Peter B. Wright, Dr. Stephen Brown, all of Augusta; Dr. Rufus Payne and Dr. John Crenshaw, both of Rome. The afternoon meeting, with Dr. Julian Quattlebaum of Savannah, presiding, had Dr. W. F. Hamilton, Dr. Robert Major, Dr. John H. Sherman, Dr. V. P. Sydenstricker, Dr. G. Lombard Kelly, all of Augusta; Dr. M. T. McEachern and Dr. Dallas B. Phemister, both of Chicago, as speakers. After dinner, Dr. Robert L. Rhodes, Augusta, presided over the meeting. Dr. Dallas B. Phemister spoke on "The Surgery of Sarcoma." Officers of the state organization are: Dr. Grady N. Coker, Canton, chairman; Dr. D. Henry Poer, Atlanta, vice-chairman; Dr. M. T. Harrison, Atlanta, secretary; Dr. Charles Wasden, Macon, and Dr. Peter B. Wright, Augusta, members of the board of directors. Serving on the committee of arrangements were: Dr. Thomas W. Goodwin, chairman; Dr. W. J. Williams and Dr. Frank Jones. The program committee was composed of Dr. Peter B. Wright, chairman; Dr. Ralph H. Chaney, Dr. Robert L. Rhodes, Dr. John H. Sherman, and Dr. W. W. Battey. On the

publicity committee were: Dr. J. Righton Robertson, chairman, and Dr. Richard B. Weeks.

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The Fourth District Medical Society met at the Cononial Hotel, LaGrange, October 6. Dr. T. J. Bussey, Fayetteville, president, and Dr. M. M. Head, Zebulon, secretary.

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The Georgia Medical Society met at the Society's hall, 612 Drayton Street, Savannah, October 28. Program: "A Report of the National Physicians Committee on State Medicine" and "A Discussion of the Cancer Clinic." Dr. G. H. Johnson, Savannah, secretary.

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Dr. Milford B. Hatcher, Macon surgeon, recently attended the meeting of the American College of Surgeons held at the Waldorf Astoria Hotel, New York City. Dr. Hatcher was elected a fellow in the college in 1942.

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The Georgia Urological Association met at the DeSoto Hotel, Savannah, November 6. Scientific program: "Anomalies of the Urinary Tract" by Dr. Edgar Burns, New Orleans, guest speaker. Following his address a round-table discussion of interesting problem cases with x-rays were presented by members of the association. Officers are: Dr. Wilborn E. Upchurch, Atlanta, president; Dr. L. W. Pierce, Waycross, president-elect; Dr. Reese C. Coleman, Jr., Atlanta, secretary-treasurer. Members: Drs. Gordon G. Allison, Atlanta, M. K. Bailey, Atlanta, Wallace L. Bazemore, Macon, Rudolph Bell, Thomasville, Montague L. Boyd, Atlanta, S. T. Brown, Atlanta, W. L. Champion, Atlanta, Reese C. Coleman, Jr., Atlanta, Ernest Corn, Macon, Charles Eberhart, Atlanta, Franklin D. Edwards, Columbus, Ernest Felber, Atlanta, Earl Floyd, Atlanta, C. A. Fort, Jr., Atlanta, Major F. Fowler, Atlanta, J. L. Garrard, Rome, W. R. Golsan, Macon, M. A. Hubert, Athens, Kenneth S. Hunt, Griffin, W. P. Jordan, Columbus, W. P. Jordan, Jr., Columbus; J. C. Keaton, Albany, Spencer A. Kirkland, Atlanta, Anthony J. Martin, Atlanta, J. Z. McDaniel, Albany, Harold P. McDonald, Atlanta, F. C. Nesbit, Covington, L. W. Pierce, Waycross, J. L. Pittman, Atlanta, W. F. Reavis, Waycross, Clinton Reed, Atlanta, Charles Rieser, Atlanta, Harry Y. Righton, Savannah, Robert J. Rinker, Augusta, J. R. Robertson, Augusta, A. S. Sanchez, Atlanta, L. W. Shaw, Savannah, William Shearouse, Savannah, S. J. Sinkoe, Atlanta, J. Gregg Smith, Savannah, John L. Stapleton, Columbus, T. R. Staton, Atlanta, Wilborn E. Upchurch, Atlanta, and R. F. Wheat, Bainbridge.

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The Georgia Baptist Hospital Medical Staff dinner meeting was held in the Nurses' Home dining room, Atlanta, October 21, with an interesting program. Dr. A. M. Dimmock, Atlanta, secretary.

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The International College of Surgeons held its twelfth assembly and convocation of the United States Chapter at the Medinah Temple Chicago, October 3. The following Georgia physicians were among the 810 surgeons inducted into the college as fellows: Drs. John Byron Avera, Brunswick, Leland G. Baggett, Lester A. Brown, Olin Sanford Cofer, Walter W. Daniel, Wadley R. Glenn, Spencer A. Kirkland, William P. Nicolson, Jr., Bernard L. Shackelford, Exum Bechwith Walker, all of Atlanta, and Charley K. Wall, Thomasville. Associates: Drs. Needham Bryant Bateman, and Clyde L. Crawford, both of Atlanta. Affiliate: Dr. Frank L. Eskridge, Jr., Atlanta.

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The Jackson-Barrow Counties Medical Society held its regular meeting at the Harrison Hotel, Jefferson, October 6. The following officers were elected for 1948: Dr. O. C. Pittman, Commerce, president; Dr. Davis Elmer, Winder, vice-president; Dr. Paul Brook-



shire, Winder, secretary-treasurer; and Dr. A. B. Russell, Winder, delegate.

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Dr. Steve P. Kenyon, Dawson, announces the association of Dr. J. Dean Paschal, Dawson, with him in the practice of medicine. Dr. Paschal graduated from Emory University School of Medicine, Atlanta, in 1943. During his junior and senior years at Emory he interned at Piedmont Hospital, Atlanta. Following his graduation from Emory University School of Medicine, Dr. Paschal interned at University Hospital, Baltimore, Maryland, and during his second year there had an assistant residency in obstetrics. He entered the United States Army Medical Corps in 1945, and served in the United States and Germany. He received his discharge in September, 1947, with the rank of captain.

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Dr. G. Lombard Kelly, dean of the University of Georgia School of Medicine, Augusta, recently enumerated three major projects as essential to the future expansion of the medical college of Augusta. First, is the need for a State hospital, fully equipped, to be used as a teaching hospital in connection with the medical school. It would be a general hospital handling all types of cases except tuberculosis, cancer, crippled children, and mental cases, for which provision would be made elsewhere. Second, is a psychiatric institute intergrated with the work in psychiatry at the medical school. Such an institute would act as a screening center for mentally ill patients and would assist in insuring that they were routed to the type of institution that would provide the proper treatment. A third need of the medical school is a new administration building to be erected at the rear of the Dugas Building on a quadrangle on the campus. Such a building would make it possible to turn the present administration building into dormitories and space for student activities, and would provide also quarters for interns, which are badly needed. By moving interns into the proposed new quarters additional space would be released in the University Hospital.

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Dr. James R. Paulk, Moultrie physician, recently attended a meeting of the American Association of Ear, Eye, Nose and Throat physicians held at Chicago.

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Dr. John R. McCain, announces the opening of his office at 312 Medical Arts Building, Atlanta. Practice limited to obstetrics and gynecology.

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The Piedmont Post-Graduate Clinical Assembly of Georgia and South Carolina held its twelfth annual meeting at Anderson, S. C., with close to 100 physicians from border counties of Georgia and South Carolina attending. Officers are: Dr. Jack Parker, Greenville, S. C., president; Dr. Clyde Bowie, Anderson, S. C., executive vice-president; Dr. Gertrude Holmes, Greenville, S. C., Dr. John Fleming, Spartanburg, S. C., and Dr. Edgar Pund, Augusta, Ga., vice-presidents; and Dr. Ned Camp, Anderson, S. C., secretary-treasurer.

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Dr. J. A. Redfearn, Albany, was recently notified by Dr. T. F. Abercrombie, director of the Georgia Department of Public Health, Atlanta, of his appointment on the Advisory Council representing the Medical Association of Georgia. He fills the vacancy left by the death of Dr. C. W. Roberts, Atlanta.

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The Second District Medical Society met at the American Legion Home, Moultrie, October 9. Program: Call to order by the president, Dr. J. P. Tucker, Bainbridge; Reading of minutes; Announcements; Appointment of committees, and introduction of visitors. Scientific program: "The Treatment of Coronary Disease" by Dr. Thomas L. Ross, Macon; "Conservative Surgery of the Upper Urinary Tract" by Dr. Robert W. McAllister, Macon; "Irradiation in the Nasopharynx" by James R. Paulk, Moultrie; "Pyloric Stenosis" by Dr.

Lillian Ingram, Albany; "Correlation of Diseases With Dermatological Manifestations" by Dr. John W. Mobley, Thomasville. Officers are: Dr. John P. Tucker, Bainbridge, president; Dr. J. Zeb McDaniel, Albany, vice-president; Dr. J. C. Brim, Pelham, secretary.

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The Seventh District Medical Society held its regular meeting at the Coosa Country Club, Rome, September 24, guest of the Floyd County Medical Society. Program: Invocation, Dr. Bunyan Stephens, pastor of the First Baptist Church, Rome; Address of Welcome, Dr. Ralph B. McCord, president Floyd County Medical Society, Rome; Reading of minutes; Report of committees; Report of councilor. Scientific papers: "The Use of Anticoagulants," Dr. Edward Bosworth, Rome; "Differential Diagnosis of Chest Conditions," Dr. Fred Wheelchel, Battey State Hospital, Rome; "Carcinoma of the Prostate," Dr. Robert Harbin, Rome; "Congenital Heart Disease," Dr. Emmett Brannon, Rome. Officers are: Dr. D. Lloyd Wood, Dalton, president; Dr. Sam Maddox, Rome, president-elect; Dr. Lee H. Battle, Jr., Rome, secretary-treasurer. Committee on arrangements: Drs. Lee H. Battle, Jr., chairman, Raiden Dellinger, and Ralph Davis, all of Rome.

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The Woman's Auxiliary of the Seventh District Medical Society met at the Coosa Country Club, Rome, September 24. Program: Welcome by Mrs. Ralph B. McCord, Rome; Response by Mrs. R. D. Walter, Calhoun; Reading of the minutes; Business; Address by Dr. Edgar H. Greene, Atlanta, president-elect of the Medical Association of Georgia.

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The Crawford W. Long Memorial Hospital staff dinner meeting was held in the dining room of the hospital, Atlanta, October 9. Program: "A Maternal Death," Dr. John E. Chapman; "A Near Maternal Death," Dr. Barton A. McCrum.

The monthly meeting of the medical section was held in the medical library. Subject: Round table symposium, "The Newer Concepts in the Treatment of Peptic Ulcers" led by Dr. McClaren Johnson.

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The Southeastern Allergy Association will hold its third annual meeting at the Jefferson Hotel, Richmond, Virginia, January 17 and 18, 1948. Dr. J. Warrick Thomas, Richmond, president, and Dr. Katharine Baylis MacInnis, Columbia, S. C., secretary-treasurer.

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The Southeastern Regional Conference of the Council on Medical Service, American Medical Association met at the Academy of Medicine, Atlanta, October 8, with the following State Medical Associations participating in the conference: Alabama, Georgia, Florida, Mississippi, North Carolina, South Carolina, Tennessee, and Virginia. Chairman, Walter B. Martin, M.D., Norfolk, Virginia, member Council on Medical Service, American Medical Association. Morning Session: Registration; Call to order, Walter B. Martin, M.D.; Welcome, Steve P. Kenyon, M.D., Dawson, president of the Medical Association of Georgia; Services the A.M.A. Can Render State Medical Societies, Harrison H. Shoulders, M.D., Nashville, Tenn., past president of the American Medical Association, member, Council on Medical Service, A.M.A.; Our Health Problems in the South, Charles W. Roberts, M.D., Atlanta (deceased), member Board of Trustees, A.M.A.; In Tribute to Dr. Roberts, his name was left on the program. Allen H. Bunce, M.D., Atlanta, paid tribute to Dr. Roberts' long and outstanding work in medical organizational activities; Rural Health Problems of the South, Mr. Owen Cooper, Jackson, Miss., executive director, Mississippi Farm Bureau; American Medicine's Rural Health Program, F. S. Crockett, M.D., LaFayette, Ind., chairman, Committee on Rural Medicine Service; Special discussants: J. Paul Jones, M.D., Camden, Ala., member, Committee on Rural Medical Service, A.M.A.,



and Henry B. Mulholland, M.D., Charlottesville, Va., member, Committee on Rural Medical Service, A.M.A.; Responsibility of the Educator in Our Health Problems, Dr. Josiah Crudup, Gainesville, president, Brenau College; Prepayment Medical Care Plans, Development in the Southern States, B. H. Minchew, M.D., Waycross, chairman, Prepayment Medical Care Plan Committee, Medical Association of Georgia; The National Picture, George W. Cooley, Chicago, Assistant Secretary, Council on Medical Service, A.M.A.; Open Forum: "How Shall We Provide Medical Care for All the People?" Luncheon, Pompeian Room, Biltmore Hotel, Spencer A. Kirkland, M.D., Atlanta, chairman, Committee on Public Policy and Legislation, Medical Association of Georgia, presiding; Introduction of principal speaker, Steve P. Kenyon, M.D., Dawson, president, Medical Association of Georgia; principal speaker, Honorable M. E. Thompson, Governor of Georgia.

Afternoon Session: The North Carolina Plan for Improved Medical Care, William Coppridge, M.D., Durham, N. C.; Industrial Health Problems in the South, E. J. Gaynor, III, Brunswick, vice-president and general manager, Brunswick Pulp and Paper Company; The National Legislative Picture, Joseph S. Lawrence, M.D., Washington, D. C., director, Washington Office of the Council on Medical Service; Program of the Council on Medical Service, Walter B. Martin, M.D., Norfolk, Va., member, Council on Medical Service, A.M.A.; and Thomas A. Hendricks, Chicago, secretary, Council on Medical Service, A.M.A.

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The Southern Psychiatric Association held its annual meeting at the Hotel Thomas Jefferson, Birmingham, Alabama, October 13 and 14. Georgia physicians who spoke at the meeting were: Dr. William G. Hamm and Dr. Frank F. Kanthak, Emory University School of Medicine, Atlanta; Dr. J. Mason Baird, and Dr. Dale Alford, Emory University School of Medicine, Atlanta; and Dr. Raymond S. Crispell and Dr. John Warkentun, Veterans' Facility, Atlanta. Officers are: Dr. Robert H. Felix, Washington, D. C., president; Dr. James Asa Shields, Richmond, Va., vice-president; Dr. R. Burke Suitt, Durham, N. C., Councilor; Dr. Guy Witt, Dallas, Texas, Councilor; Dr. Newdigate M. Owensby, Atlanta, Ga., secretary-treasurer; Dr. James A. Becton, Birmingham, Ala., chairman, committee of arrangements.

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Dr. Murdock Euen, Atlanta, was recently elected president of the Georgia State Medical Examining Board, of which he has been a member for some years. Dr. Grady Coker, Canton, was elected vice-president. Thirty-six physicians were licensed on the final day of the current meeting of the board, by reciprocity and examination.

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Dr. Claire Jackson Wyatt, Rome, has joined the Harbin Clinic staff, Rome. Dr. Wyatt recently returned to Rome after three years' hospital training and graduate work at Royal Victoria Hospital, Montreal, Canada. He completed his premedical work at Vanderbilt University in 1940 and studied four years at Johns Hopkins University School of Medicine, Baltimore, Maryland.

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Dr. Robert H. Stephenson, Atlanta, announces the opening of his office for the practice of surgery at 490 Peachtree Street, N. E., Atlanta.

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Dr. J. P. Ward, Moultrie, commissioner of the Colquitt-Brooks Health Department, has resigned to accept the position of superintendent of public health for the State of Arizona with headquarters in Phoenix, Arizona. Dr. Ward had headed the dual-county setup in Moultrie since July, 1946.

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This year's dues must be paid promptly for your name to be included in the annual directory.

## OBITUARY

DR. LUTHER FRANCIS BUGG, aged 72, prominent Southwest Georgia physician, died at his home in Carnegie, October 3, 1947. A native of Greene County, Dr. Bugg graduated from the Georgia College of Eclectic Medicine and Surgery, Atlanta, in 1902, and practiced medicine in Leary and Carnegie for 46 years. He was widely known in Southwest Georgia for his civic and political activities and was formerly a commissioner of Randolph County. Survivors include his wife, the former Miss Eliene Markette of Greene County; one daughter, Miss Margaret Bugg, Carnegie; a son, Francis D. Bugg, Cairo; one grandson, Francis D. Bugg, Jr., and two nephews. Funeral services were held at the Carnegie Baptist Church, with the Rev. J. Robert Smith of Cuthbert, officiating. Burial was in Church Cemetery, Carnegie.

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DR. HOWARD TRIVERS EXLEY, aged 53, prominent Savannah physician and civic leader, died unexpectedly in a Savannah hospital, October 22, 1947. A native Savannahian, Dr. Exley received his medical degree from the Atlanta College of Physicians and Surgeons, now Emory University School of Medicine, Atlanta, in 1911. Following his graduation he returned to Savannah and began the practice of medicine. Dr. Exley was a member of the board of directors of the First Federal Savings and Loan Company, and was physician for the United States Government, caring for federal prisoners. He was past president of the Georgia Medical Society, was a member of the Medical Association of Georgia, the American Medical Association, the staff of Warren A. Candler Hospital, and was vice-president of the board of directors of the hospital at the time of his death. He was a member of the Trinity Methodist Church, a Mason and a Shriner. He is survived by his wife, the former Miss Pauline Keller; two sisters, Mrs. Addie Keller, Atlanta, and Mrs. Bowers Gnann, Clio. Funeral services were held at the Trinity Methodist Church, with the Rev. George E. Clary, pastor, officiating. The staff of physicians at Warren A. Candler Hospital served as honorary pallbearers. Burial was in Bonaventure Cemetery, Savannah.

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DR. ARTHUR DILLARD LITTLE, aged 66, widely known Thomasville surgeon, died at Archbold Memorial Hospital, October 16, 1947. Dr. Little was born at Dawson, son of the late Joseph H. and Frances Harmon Little. He graduated from Tulane University of Louisiana School of Medicine, New Orleans, La., in 1908, returning to Thomasville to practice medicine and later specialized in surgery. His professional capacity was recognized in many ways through his long and useful life. He was for some years a member of the State Board of Health and had filled other State honorary positions in Georgia and in the American College of Surgeons. He served for some years as county physician and adviser on medical affairs, and was the inspiration for the Cancer Clinic of Thomasville. For many years he was a member of the Board of Education of the city of Thomasville and until he moved out of the jurisdiction of the city board was its vice-president. He was a charter member and past president of the Thomasville Rotary Club. He was a member of the Thomas County Medical Society, the Medical Association of Georgia, and a fellow of the American Medical Association and the American College of Surgeons. He is survived by his wife, the former Caroline Atkinson of Brunswick; two sons, Arthur D. Little, Jr., Richmond, Ind., and Dr. Frank Little, Thomasville; one daughter, Mrs. Seymour Etkin, Washington, D. C., and several brothers and sisters in South Georgia. Funeral services were held from the First Methodist Church, with the Rev. Earl Garbutt officiating, assisted by the Rev. George Shirley of St. Thomas Episcopal Church. Burial was in Laurel Hill Cemetery, Thomasville.

DR. GUY ARTHUR MYERS, JR., aged 39, 1717 Emory Road, N. E., leading Atlanta eye, ear, nose and throat specialist, died Sept. 24, 1947 in a Philadelphia Hospital where he had gone to receive treatment. He was the son of Mrs. Guy Myers, Sr., and the late Mr. Myers of Atlanta. Dr. Myers graduated from Emory University School of Medicine, Atlanta, in 1934, where he was a member of Phi Rho Sigma, and Phi Delta Theta fraternities. He took his internship at Grady Memorial Hospital, Atlanta. He was associated with Dr. John R. Childs for five years in the Medical Arts Building, Atlanta. He was injured during World War II while serving as an Army major in Holland. He was a member of the Fulton County Medical Society, the Medical Association of Georgia and the American Medical Association. He is survived by his wife, the former Miss Mary Ellen Forrest of Atlanta; two sons, Guy Myers, III, and Forrest Myers; his mother, Mrs. Guy Myers, Sr., and a sister, Mrs. S. Y. Stribling, of Riveredge, N. J. Funeral services were held at Spring Hill, Dr. Fred R. Chenault officiating. Burial was in West View Cemetery, Atlanta.

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DR. ROBERT JOHN POWERS, aged 76, prominent physician of Roswell, died at his home in Sandy Springs, September 2, 1947. Dr. Powers was a native of Cobb County and graduated from the Atlanta College of Physicians and Surgeons, now Emory University School of Medicine, Atlanta, in 1901. He resided in Crawfordville for a number of years where he operated a drug store and practiced medicine. He was married to Miss Mattie Tucker, Crawfordville, in 1903, who preceded him in death a number of years ago. Survivors are one son, Robert J. Powers, Jr., Columbus, Ohio; mother, Mrs. L. M. Powers, Sandy Springs; two sisters, and three brothers. Funeral services were held at the Roswell Methodist Church, with Rev. H. A. McNeil and Rev. R. M. Donehoo officiating. Escorts were the Board of Stewards of Roswell Methodist Church and Roswell Lodge No. 165, F. & A. M. Burial was in the Presbyterian Cemetery, Roswell.

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DR. ROBERT P. STINCHCOMB, aged 76, prominent Georgia physician, died at his residence, 1822 Howell Mill Road, N. W., Atlanta, September 23, 1947. He began the practice of medicine at Monroe in 1896, shortly after he graduated from the University of Georgia School of Medicine, Augusta. Some years later he opened an office in Damascus, in Early County, and later in Pendergrass, Jackson County, where he was president of the Ninth District Medical Society. Dr. Stinchcomb was an honorary member of the Medical Association of Georgia. Active in church work, he was superintendent of the Sunday School in the Methodist church in Pendergrass for many years. He was a member of the Underwood Methodist Church at the time of his death and was past master of the Johnny Hill Lodge, F. & A. M., in Jackson County. He retired from the active practice of medicine several years ago and moved to Atlanta. Survivors include his wife; a son, M. F. Stinchcomb, Atlanta, and his grandson, Harold H. Herrin, Jr., of Eastman. Funeral services were held at Spring Hill, with the Rev. Nat G. Long and the Rev. J. K. Brown officiating. Burial was in West View Cemetery, Atlanta.

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DR. ANDREW RUFUS WATKINS, aged 82, physician of Chamblee, died at his residence September 2, 1947. Dr. Watkins graduated from Emory University School of Medicine, Atlanta, in 1892. Survivors include his wife; a son, Paul E. Watkins, Atlanta, two sisters, Mrs. Mary England and Mrs. Georgia Wilborn, both of Blairsville, and a brother, P. M. Watkins, Blairsville. Funeral services were held at the Prospect Methodist Church, with the Rev. John C. Moore and the Rev. H. C. Stratton officiating. Burial was in Prospect Cemetery, Chamblee.

## NEW BOOKS

EVERYDAY PSYCHIATRY, by John D. Campbell, M.D., formerly Captain M. C., USNR; Chief Neuropsychiatrist, U. S. Naval Base Hospital No. 3; Chief Neuropsychiatrist, U. S. Naval Hospital, Charleston, S. C., and Visiting Lecturer in Psychiatry, Medical College of South Carolina; Diplomate of American Board of Neurology and Psychiatry. 333 pages, Philadelphia; J. B. Lippincott & Company, 1945. (Now in second printing.)

John Campbell in *Everyday Psychiatry* gives first an understandable analysis of the basic structure of mental physiology. His discussion of our so-called normal is continued into variants that should be easily recognized by every doctor and treated by him. Most patients of this type should never progress to the need of a psychiatrist. Unbelievably simple and practical, *Everyday Psychiatry* is the only book of its kind that I have found fitted for the practitioner of medicine, the minister, the lawyer or judge, and for workers in social service. It is easy reading, and once begun, it is hard to lay down.

HAL M. DAVISON.

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HISTORY OF MEDICINE, by Cecilia C. Mettler, A.B., Ed.B., A.M., Ph.D., Late Assistant Professor of Medical History, University of Georgia, School of Medicine; Late Associate in Neurology, College of Physicians and Surgeons, Columbia University. Edited by Fred A. Mettler, A.M., M.D., Ph.D., Columbia University.

16 illustrations; 1215 pages; \$8.50 (published October 16, 1947).

This is a new and systematic presentation of medical history based on entirely new translations from all original sources. Its special purpose is to give students the facts they need at the time they are studying in any particular field, and to give specialists the facts pertaining to their specialty correlating every fact through the ages. The clinical chapters enable the reader to trace the evolution of concepts by which modern medicine has been developed, making it possible to see what place any disease or syndrome occupied in the past, conditions of the basic sciences behind such conceptions, and the therapy employed. The Blakiston Company, 1012 Walnut Street, Philadelphia 5, Pa.

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PHARMACOLOGY, THERAPEUTICS AND PRESCRIPTION WRITING—For Students and Practitioners: By Walter Arthur Bastedo, Ph.G., Ph.M. (Hon.), M.D., Sc.D. (Hon.), F.A.C.P., Consulting Physician, St. Luke's Hospital, N. Y.; St. Vincent's Hospital, Staten Island, and the Staten Island Hospital; President, U.S.P. Convention 1930-40; Member Revision Committee, U.S.P. Formerly Curator of the N. Y. Botanical Garden; Attending Physician, City Hospital, N. Y.; Instructor in Pharmacology, Cornell University; Associate in Pharmacology and Therapeutics and Assistant Clinical Professor of Medicine, Columbia University. Fifth Edition. 840 pages, with 82 illustrations. Philadelphia and London. W. B. Saunders Company, 1947. Price \$8.50.

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GIFFORD'S TEXTBOOK OF OPHTHALMOLOGY: By Francis H. Adler, M.D., Professor of Ophthalmology, University of Pennsylvania Medical School. Fourth Edition. 512 pages, with 310 illustrations. Philadelphia and London: W. B. Saunders Company, 1947. Price \$6.00.

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A TEXTBOOK OF CLINICAL NEUROLOGY—With an Introduction to the History of Neurology: By Israel S. Wechsler, M.D., Clinical Professor of Neurology, Columbia University, N. Y.; Neurologist, The Mt. Sinai Hospital; Consulting Neurologist, Montefiore Hospital and Rockland State Hospital. N. Y.



Sixth Edition. 829 pages with 162 illustrations. Philadelphia and London. W. B. Saunders Company, 1947. Price \$8.50.

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**HOSPITAL CARE IN THE UNITED STATES:** by The Commission On Hospital Care, A. C. Bachmeyer, M.D., Director of Study, Maurice J. Norby, Associate Director. What is the extent of existing hospital facilities? How great is their capacity for service? What additional facilities are needed? How should they be integrated for greater effectiveness? The answers to such vital questions about current hospital service are presented in this report, which summarizes the findings of an intensive two-year survey of general hospitals in the United States conducted by the Commission on Hospital Care.

The historical background of the expansion of hospital service is outlined and every hospital function is considered in all its ramifications. The factors governing the distribution, size, use, and need for hospital facilities are analyzed and attention is given to all major hospital problems such as training of professional personnel, size of hospital community, utilization of hospitals, and method for estimating bed need. Charts, graphs, maps, and work formulas give an enormous amount of detailed data on the physical facilities, service statistics, and financial aspects of existing hospitals.

The Commission on Hospital Care, an independent, nongovernmental committee, was composed of outstanding leaders from many fields, both public and professional. It was established in October 1944 by the American Hospital Association to survey hospital facilities and blueprint material assembled by the Commission and its thought-provoking recommendations make this report an invaluable reference book for all those concerned with hospital administration. 655 pages. Price \$4.50. Published by The Commonwealth Fund, 41 East 57th Street, New York 22, N. Y.

#### GERMANS BARRED FROM WORLD MEDICAL GROUP UNTIL CRIMES REPENTED

According to *The Journal of the American Medical Association* for October 25, among significant actions taken at the World Medical Association's first meeting, held in Paris on September 18, 1947, was a resolution that German delegates would not be admitted "until organized medicine in Germany condemned past criminal acts of German physicians."

The new organization is an advisory arm of the World Health Organization, which is under the wing of the United Nations. Forty-eight nations were represented at the meeting, on which *The Journal* comments: "The representatives of the American Medical Association in this meeting were Dr. Elmer L. Henderson, Louisville, Ky., chairman of the Board of Trustees, and Dr. L. H. Bauer, Hempstead, N. Y., member of the Board of Trustees. As alternate delegates Dr. R. L. Sensenich, South Bend, Ind., President-Elect of the Association, and Dr. Ernest E. Irons, Chicago, Secretary of the Board of Trustees, also attended.

"Although world peace is a fundamental objective of the World Medical Association . . . the meeting was not wholly peaceful. Forty-eight nations were represented. The two principal objectives determined were promotion of closer ties among the national medical organizations and among the physicians of the world and study and report on professional problems that confront the members of the medical profession in various countries. Much consideration was given to the extent to which the professions of various countries would be represented, with an ultimate agreement that each national medical association should have two votes but that membership would be available for any other national or territorial medical association representative of the medical profession in its country or of the medical profession of an ethical group within the country. Apparently medical political attitudes prevailed at least for a while because the South American

countries acted as a bloc during the early days of the session under the leadership of Dr. Hurtado of Cuba, who, strangely, was an official delegate from Costa Rica.

"In the course of the considerations the American delegation submitted a report on its efforts to secure funds for the functioning of the World Medical Association. It was agreed that the office of the secretary should be in North America, probably in New York City, since the headquarters of the United Nations and the World Health Organization will also be in New York.

#### NAIL REMOVED FROM SMALL INTESTINE BY MAGNET FOR FIRST TIME

For the first time a foreign body has been removed from the duodenum (the part of the small intestine leading from the stomach) by a magnet, according to an article in the October 18 issue of *The Journal of the American Medical Association*. Up to this time a serious surgical operation has always been necessary, say the writers, Murdock Eguen, M.D., Robert Gilliam, M.D., and Merrill Lineback, M.D., all associated with the Ponce de Leon Ear, Nose & Throat Infirmary of Atlanta, Ga.

The case involved a four-year-old boy who had swallowed a nail, which reached the second portion of his duodenum, point up, two days later. An operation was planned. Then someone suggested that perhaps the nail could be removed by means of the magnet which has so greatly simplified the removal of safety pins from the windpipe and the removal of any magnetic foreign body from the stomach. The boy was brought to the Ponce de Leon Infirmary.

With the help of a "chocolate malted" the child finally succeeded in swallowing a new model of the magnet, slightly curved so that it could get around curves more easily, and with a groove around one end holding a loop of strong waxed thread. Several hours later he exclaimed that he had "felt something click," and complained of a dull pain. An x-ray showed the magnet in contact with the nail.

The boy was then given ether, and under x-ray guidance the magnet and nail were slowly pulled back into the stomach by the string. All three could then be rapidly withdrawn. The procedure took less than two minutes, the doctors report, and by the next day the boy was none the worse for his experience.

#### ECONOMIC, SOCIAL PROBLEMS CREATED BY CHRONIC ILLNESS

"The problems created by chronic illness are not only medical problems but economic and social welfare problems as well," says an editorial in the October 18 issue of *The Journal of the American Medical Association*. Referring to the comprehensive statement on "Planning for the Chronically Ill," published in the October 11 issue of *The Journal* and prepared jointly by the American Hospital Association, the American Public Health Association, the American Public Welfare Association and the American Medical Association, the editorial points out:

"Each year chronic diseases cause almost a million deaths and the loss of almost a billion days of production work. The average life span is much longer today than a few generations ago; as the average continues to increase, the number of persons chronically ill likewise will increase. In the year 1900 one person in 25 was 65 years of age or older; it is estimated that by 1980 the ratio will be one in 10. Chronic diseases, however, kill young persons as well as the old. Perott states that 16 per cent of all persons with known chronic diseases are under 25 years of age. From the point of view of prevalence, disability, invalidism and death, arteriosclerosis, hypertension, nervous and mental diseases, arthritis, nephritis, tuberculosis, diabetes and asthma. . . . The statement 'Planning for the Chronically Ill' offers a guide for future legislation."



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### ECZEMA AT THE BODY OPENINGS

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*Atlanta*

Eczema is a pathologic condition of the skin which is caused by some excitant activating a dermatitis in a sensitive skin. This sensitiveness is an hereditary factor which is dormant until one or more excitants appear on the scene. Often it is difficult to differentiate between contact dermatitis and eczema. When the diagnosis of contact dermatitis is established, eczema is eliminated. However, contact dermatitis is usually, if not always, present in individuals who have had eczema or one or more of the other so-called allergic conditions.

Thirteen years ago, before this organization, meeting in this city, I read a paper dealing with eczema. I stated then that diagnostic skin tests in eczema were not of practical value and that the patient should not be put to the expense of having them made. (I am not referring to patch tests and contact dermatitis). Now, I say that skin tests for eczema are probably worthless and may even do harm because of the discomfort to the patient and the added nervous strain. Patients should not be subjected to procedures which offer very little, if any, help in curing or relieving their ailment. At the meeting of the Southern Medical Association, November 1946, in Miami, I was invited to discuss eczema in children. Dermatologists, pediatricians and allergists spoke

on the subject. It was interesting to hear a unanimity of opinion that skin tests were of no value. So often I see children who have been "tested" and the end-result was they were disallowed wheat, milk and eggs—three of our most valuable foods. Immediately I return all three of these foods to their diet. I have never observed a single instance in which the eczema was aggravated. Clinically, I have apparently proved that orange juice, prune juice and tomato juice aggravate eczema and in some instances seem even to have initiated the attack. I have not proved this observation by skin tests.

Diet, emotional states, physical agents, cosmetics and other chemicals are some of the common factors which are at work in the etiology of eczema. The presence of yeasts and fungi in the auditory canals and about the anus and vulva do not prove they cause eczema. When demonstrated only by a microscopic examination of fresh specimens from these affected areas, the conclusion cannot properly be reached that they are pathogens. Frequently I see eczema of the auditory canal and anal region which has been clinically diagnosed as a fungus infection. It is astounding to read in the literature statements to the effect that fungus infections are the most frequent cause of pruritus ani et vulvae et scroti and auditory canal eczema.

Eczema may be seen frequently only at one or more body openings. On the other hand, it is not uncommon to see eczema involving the eyelids, auditory canals, nares, nipples, meatus, vulva and perianal region in the same patient who has a generalized attack. So-called "granulated lids"

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Read before the Medical Association of Georgia, Augusta, April 24, 1947.

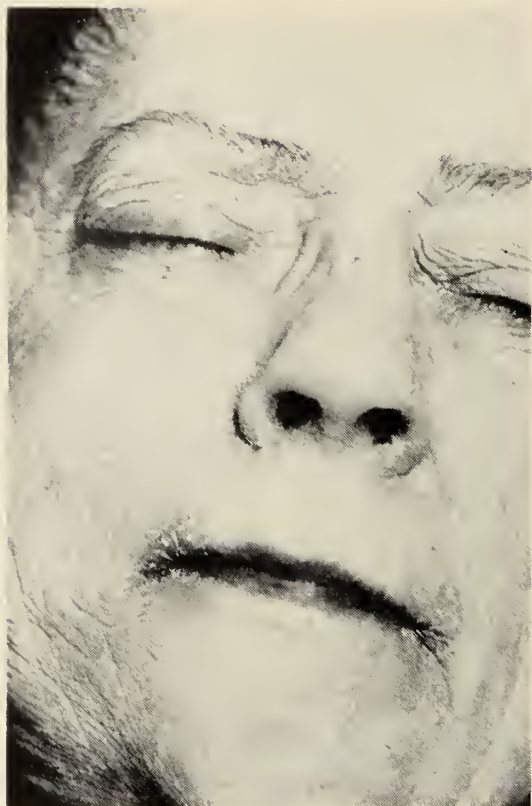


Figure 1

Eczema of the commissures of the mouth, nares and canthi.

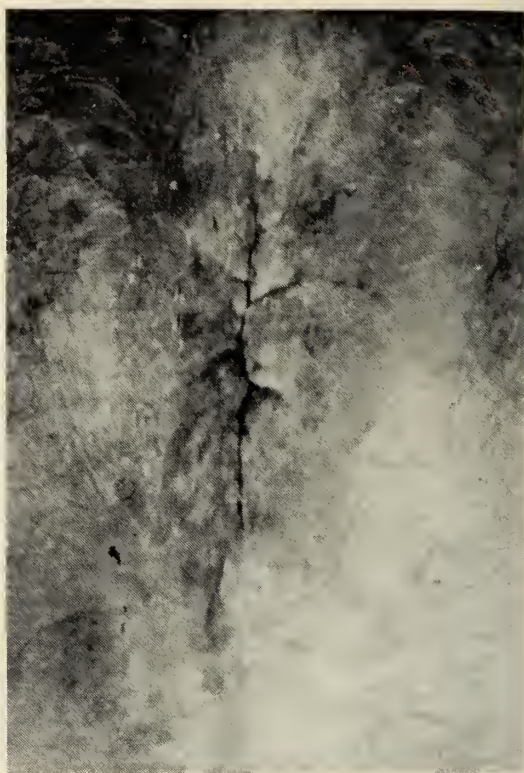


Figure 3

Chronic eczema of the perianal region with marked fibrosis and depigmentation.



Figure 2

Chronic eczema of the vulva with multiple abrasions.



Figure 4

Eczema of the vulva and perineum with erosion on the right side of the vulva and posterior commissure.





Figure 5  
Eczema of the vulva, perianal region and intergluteal fold.



Figure 7  
Eczema of the vulva showing deep fissure of the left lip.



Figure 6  
Eczema of the perianal region and perineum.



Figure 8  
Chronic eczema of the vulva, masked by x-ray sequelae with epithelioma of the left side of the vulva.



to the dermatologist is seborrheic eczema (seborrheic dermatitis). Eczema of the margin of the lids spills over the sides of the lids like rain water falling on a mountain peak. That which goes to the mucous membrane represents conjunctivitis and that which goes to the skin side represents eczema. Several years ago the late Dr. Grady Clay stated that Dr. Walter I. Lillie of Philadelphia told him that he no longer treated seborrheic eczema of the eyelids but referred his patients to a dermatologist who was better qualified to treat the condition. Dr. Lillie also said the dermatologist gave the patient quicker relief and that the end-results were better than those which he had been obtaining. In turn, Dr. Clay said "I no longer treat seborrheic eczema".

Fissures as secondary lesions in eczema at the body openings, if given time and properly treated, rarely call for surgery. I have never known an oculist or otologist to use surgery for fissures in eczema in their respective fields.

### *Treatment*

Rest in bed is a valuable adjunct in the treatment of eczema. It is difficult to get a patient's cooperation in this respect. Because there is an absence of pain and fever, even the relatives believe rest in bed is not essential.

Sedation is indicated if the eczema is widespread or if other allergic states are present and if the patient is nervous.

Constipation should be corrected. Milk of magnesia is usually satisfactory and when the perianal region and genitals are involved it seldom irritates.

Coffee, tea, alcohol, tobacco, spices, sauces, condiments, pickles, nuts and chocolate should be eliminated from the diet during an attack of eczema. They should be greatly restricted between attacks.

Wind and direct sunlight should be avoided. I do not believe the old practice

of keeping water off the skin is a good one. The chronic dry eczematous-skin should be bathed frequently, taking care that all soap is removed. Every other day the moist eczematous skin should be bathed with soap and water. The procedure cleanses the skin, promotes healing and makes the patient feel better. The soap should be kept well below 5 per cent in strength by using warm water freely. I question the superiority of the various proprietary detergents over mild soap and warm water. Many patients report that the "soapless soaps" disagree with them. No doubt a psychologic element enters into the patient's opinion of the value of the proprietary detergents.

Wet dressings are of great value in the treatment of moist eczema.

Weak silver nitrate with cold quartz or other source of ultra-violet therapy is often indicated.

X-ray therapy is the most valuable single agent in the treatment of eczema at the body openings. Recently I saw an x-ray burn of the ears. This was an instance of a valuable agent being misused. A patient should always be asked "Have you had previous x-ray treatments?" If he says "yes" then request and insist that he secure a record of all treatment previously received. The record should include: (1) The dates and number of treatments. (2) The areas treated. (3) The single treatment dosage in R units. (4) The total dosage in R units given to each area. Sometimes, records from as many as three to five other physicians must be obtained for protection of the patient as well as guidance in the treatment of the attack of eczema presenting itself. Carelessness in the use of x-ray treatment is inexcusable. Safety for the patient must be given first consideration.

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The Ninety-Eighth Annual Session of the Medical Association of Georgia will be held in Atlanta, April 27-30, 1948.

## SILICOSIS

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*McCaysville*

Silicosis is comparatively a new name in medicine. Its pathology and clinical symptoms are not new but really represent one of the oldest of human afflictions and date back to the stone age. Hippocrates referred to the short life of miners as the ill effects of inhaling dust. He called mining a dangerous occupation which caused asthma, dyspnea, and phthisis; hence the name miner's disease or miner's tuberculosis.

A special committee of the American Public Health Association defines silicosis as a disease due to prolonged breathing of air containing silicon-dioxide, which is characterized anatomically by generalized fibrotic changes and the development of miliary nodulation in both lungs, and characterized clinically by shortness of breath, decreased chest expansion, lessened capacity for work, cough, pain in chest, absence of fever, increased susceptibility to tuberculosis, some or all of which symptoms may be present, and by characteristic x-ray findings.

Within the past few years extensive investigation has been made on the harmful effects of dust on the lungs. The recognition of silicosis as being a true occupational disease has stimulated the interest of internists, health authorities, and industrialists toward further study of this insidious, incurable malady, which saps the strength and energy from the young and vigorous in a few brief years.

A few states have enacted legislation to provide compensation for disabled persons who have lost their health due to occupational environment, the inhalation of dust, and obnoxious gases. Silicon-dioxide seems

to be the most common and widespread industrial hazard. Asbestosis is said to be more serious though occurring in limited areas. Aluminosis seems to give little concern. Anthracosis or coal miner's disease does not give the early clinical symptoms and pathologic changes as silica dust. Approximately one million laborers in the United States are now exposed to occupational diseases caused by silica dust. These are chiefly found in the mining and smelting of copper, gold, silver, lead, zinc, iron, limestone, the crushing and blasting of stone, marble and quartz. It is also found in drillers' blockers, chuckers, moulders, glassworkers, metal workers, cement workers, pottery and tile workers, grinders and abrasive workers, marble cutters and polishers, soapmakers, painters, dental technicians, and diamond miners.

Silicosis has no parallel in the annals of medicine. It is noncontagious and non-infectious; it is afebrile, nonbacterial, and nonvirus. It does not respond to sulfa drugs, penicillin or any known treatment. The etiology of silicosis is silica dust—laden atmosphere and it is the finer particles less than 10 microns which find their way into the air sacs that do the greatest damage. The larger particles of dust are intercepted, reversed in direction, and to a great part disposed of in the upper air passages by the specific wave-like action of the ciliated epithelial lining of the trachea and larger bronchi.

At autopsy the silicotic lung generally reveals a grayish-black pigmented marbling of the pleura and often with adhesions. The lungs are bulky, heavy and do not readily collapse. Much of the elasticity is lost from the increase of fibrous tissue and fusion of air sacs with emphysematous bullae. The cut surface shades from gray to black and the silicotic nodules are black and rubbery. The peribronchial lymph nodes are black

and often calcified. Large areas of the lung are found to be fibrotic and without air with the smaller bronchioles occluded. The tissue has a gritty feel, resists the knife and may produce a scratchy sensation as if cutting through sand.

Microscopically, the silicotic nodule is usually globular in shape, encapsulated and made up of collagenous laminations which account for its yarn ball appearance when noted on x-ray films. Free pigment is found between the collagen strands and giant cells may be present of a foreign body type. Blood vessels in the nodule, even though they be thrombosed or canalized, are strong evidence of silicosis since the tuberculous nodule is avascular from the beginning.

Microscopically, the development of silicosis is briefly the entrance of dust into the lungs by inhalation, the development of a dry bronchiolitis, characterized by an accumulation of dust filled phagocytes which are transported through the walls of the air sacs to the adjacent tracheobronchial lymph nodes: a gradual development of fibrous tissue, the formation of characteristic nodules of a hyaline fibrosity which increase in size by extension at the periphery. Coalescence of adjacent nodules takes place and brings about further involvement of lung tissue by fusion of air sacs. Fibrosis and obliterated air sacs give rise to the dyspnea and decreased chest expansion.

Silicosis has been arbitrarily divided into various stages as first, second and third. The first stage may begin within thirty days to several years after exposure, depending on the individual and the atmospheric content of silica. The man may appear healthy but first notices that his endurance is not so good, he fatigues more easily, he becomes dyspneic on slight exertion, has a dry morning cough, becomes more susceptible to colds, his chest expansion becomes decreased, pain and a tight feeling in the chest

are common as well as pain and cramps in the legs, insomnia and general inertia. This is the true clinical picture of silicosis which, once developed, seems to progress under its own power or momentum even after the patient has been removed from the environment of dust to one of sunshine. Tuberculosis is said to attack sooner or later from 75 to 80 per cent of all silicotics.

The diagnosis of silicosis is more difficult than is generally realized. The time required to contract this insidious disease cannot be stated with certainty. A few cases have developed in three to six months where dust was heavy, though most cases develop in two to five years' exposure, while it is not unusual for workmen to show few symptoms of disability after ten or fifteen years' work in dust-laden atmosphere. The duration of exposure is significant because it is the determining factor in the amount of dust inhaled and is reciprocal to the atmospheric concentration. Although the time limit of exposure varies, it is obvious that a short exposure to heavy concentration of very fine silica will result in greater damage to a normal lung than a much longer exposure to a slight concentration. As other diseases simulate silicosis from a roentgenologic standpoint, a diagnosis of silicosis should not be made without careful history of exposure, and clinical picture, correlated by x-ray findings. The most frequent x-ray findings in first-stage silicosis are abortization of the bronchial tree, accentuations of the linear markings, adenopathy, and fibrosis of the hilar areas. As the condition progresses there is infiltration along the bronchial tree with the widening of the mediastinal shadows, which may contain small calcified areas. There is also a fuzziness of the outline of the nodules, increased fibrosis, mottling, caseations, and calcification, emphysema, pleurisy and cavitation. In no case is the diagnosis of silicosis justified



without a history of exposure to dust-laden atmosphere.

Differential diagnoses to be considered always are:

1. Syphilis of the lungs.
2. Miliary tuberculosis.
3. Pulmonary carcinomatosis and other neoplasms.
4. Pulmonary aspergillosis.

### Summary

1. Silicosis is preventable by avoiding exposure to dust-laden atmosphere.

2. The prognosis for this condition is grave and there is no satisfactory treatment.

3. Silicosis predisposes to pulmonary infections, especially tuberculosis.

4. All new employees of dusty trades should have a pre-employment examination and a roentgenogram of the chest. They should be told of the dangers of the inhalation of dust.

5. Prevention in industry is a matter of industrial management to eliminate silica from the environment of employees.

6. State health authorities can do much to aid in the battle against this most disastrous occupational disease by demanding better protection for employees who labor in dust and not by acquiescing and agreeing with employment officials "that dust is not harmful".

### REFERENCES

1. Lanza, A. J.: Etiology of Silicosis, J. A. M. A. 101: 583 (Aug. 19) 1933.
2. Schultz, William A.: Clinical View of Silicosis, Arizona Medicine, 1: 261 (Sept.) 1944.
3. Hanman, J. W. G.: Estimation of Disability of Silicosis, J. Indiana M. A. 391, (Oct.) 1945.
4. Hawthorne, Samuel: Pittsburgh, Pennsylvania, Points of Pathogenesis of Silicosis Practical Importance in its Diagnosis, Pennsylvania M. J. (March) 1943.
5. Seltzbach, Louis E.: Silicosis Hazard in Mechanical Industry, J. A. M. A. 113: 116 (Sept. 16) 1939.
6. Swenry, Henry C., and Klaas, Rosaline: X-ray Diffraction Analysis in Silicosis, J. A. M. A. 112: 610 (Feb. 18) 1939.
7. Cole, Lewis Gregory, and Cole, William G.: Dyspnea of Silicosis, Its Cause, J. A. M. A. p. 1216, (Sept. 23) 1939.
8. Lenan, Willie S.: Factors Involved in the Production and Development of Silicotic Lesions, Division Med., Mayo Clinic, Rochester, Minnesota.
9. Scarlett, E. P.: Canadian M. A. J. p. 468 (Nov.) 1942.
10. Gardner, Leroy U.: Symposium on Silicosis, New York State J. Med. p. 1376.
11. Beheman, Harold F.: Silicosis, California & West. Med. p. 322.
12. Miller, Oscar O.: Silicosis, Kentucky M. J. p. 280.
13. Lanza, A. J.: Silicosis, Wisconsin M. J. p. 923 (Oct.) 1942.
14. Motz, Philip B.: Roentgenologic Classification and Diagnosis of Silicosis.
15. Gardner, Leroy U.: Etiology of Silicosis, J. A. M. A. 3: 1925 (Nov. 19) 1938.
16. Stayton, Chester A.: Silicosis and Occupational Disease, J. Indiana M. A. 393 (Aug.) 1938.
17. Raadquist, C. S.: Lancet, p. 414 (Sept.) 1937.
18. Moore, H. H., and Kelly, M. J.: Clinical Study of Silicosis, Canadian M. A. J. p. 339.

## DIFFERENTIAL DIAGNOSIS OF ANTERIOR CHEST PAIN

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Atlanta

Pain in the anterior chest is a common complaint in medical practice. A determination of its cause is of utmost importance, since the prognosis and treatment may vary widely. It is desirable to recognize those conditions which may threaten or shorten life; on the other hand, it is equally important not to ascribe symptoms to serious disease when their origin may be some simple malfunction.

The most frequent cause of such pain is coronary arteriosclerosis, as manifested by angina pectoris. The discomfort is generally located beneath the sternum, less often over the precordium. It may be described as a sense of pressure, as a squeezing, constriction, tightness, heaviness, feeling of indigestion, or rarely as a burning. It may or may not radiate to the arms, neck, or jaw. It may begin in the epigastrium, but in such instances it usually radiates beneath the sternum. It is sharply related to those things which increase the work of the heart; viz., exercise, emotion, or a large meal, particularly on exposure to cold, where the additional factor of vasoconstriction is present. Its duration is brief, usually a few minutes, and it disappears with rest or with the use of nitroglycerin. It may occur during intercourse, and this may serve to differentiate from functional dis-

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ease; we have never seen pain of functional origin occur during intercourse. The discomfort may first be noted on a cold morning while climbing a hill, or while hurrying to catch a bus or trolley after breakfast. The diagnosis is established on the characteristic history alone and does not depend upon the pulse, blood pressure, electrocardiogram, x-ray, or physical examination. Fully one-third of patients with angina pectoris have a normal electrocardiogram; those with abnormal electrocardiograms may simply show non-specific changes involving the T waves or intraventricular conduction. Changes may at times appear during an attack or be induced by exercise or by oxygen deprivation. These tests may be of help in deciding whether any given set of symptoms is angina pectoris.

The pain of myocardial infarction is more severe and prolonged and is frequently associated with signs of muscle necrosis; i.e., fever, elevated sedimentation rate, leukocytosis, and characteristic electrocardiographic changes in serial tracings. It should be emphasized that the electrocardiographic changes are of the most importance; if the area of necrosis is small, there may be no fever, leukocytosis, or elevated sedimentation rate. Yater recently reported that only 50 per cent of a series of patients with coronary occlusion developed an accelerated sedimentation rate. Shock is not uncommon.

Although 90 per cent of angina pectoris is due to coronary arteriosclerosis, other conditions, such as aortic valve disease, syphilitic coronary ostial disease, severe anemia, thyrotoxicosis, and prolonged excessive ventricular rates such as may be seen in auricular or ventricular tachycardia, may cause angina. Of this group, aortic valve disease is perhaps the most common cause of chest pain. Aortic stenosis is more commonly associated with angina than is aortic insufficiency. The diagnosis may be estab-

lished by the characteristic murmurs.

A. W. J., aged 39, had rheumatic fever as a child. For four years he has had repeated attacks of angina pectoris which occurred during emotion and on exertion. They are particularly frequent at night, awakening him every few hours. He has taken an average of 100 nitroglycerin tablets each week. The heart was markedly enlarged with the typical findings of aortic stenosis and insufficiency. The blood pressure was 164/60, and there were the peripheral signs of aortic insufficiency. The electrocardiogram showed left bundle branch block.

Esophageal pain more closely resembles that due to coronary disease than any other disease. The small hiatus or von Bergmann hernia is the greatest offender. Jones and his co-workers<sup>1</sup> have given an excellent description. The pain is usually substernal. It may be precipitated by nervous tension, a large meal, alcohol, or certain bodily positions. Although it may occur following exertion, the relation is not constant. It may radiate to the shoulders, particularly the right, in the region of the trapezius muscle. There is usually a close relation between lying down or bending forward and the onset of pain. It is prone to occur at night in the recumbent position and be relieved in the upright position. Atropine frequently results in improvement; nitroglycerin at times gives relief, due to relaxation of the smooth muscle, and this only complicates the problem of differentiation from angina. At times the two conditions may coexist.

Mrs. R. C. A., aged 68, experienced frequent episodes of substernal pain over a period of three years. There was radiation to the back, and her breath seemed to be cut off. The attacks were not related to exertion, but more often occurred upon retiring at night. They were not related to exercise or emotion. An hiatus hernia was demonstrated by x-ray. Subsequently she had an attack of severe substernal pain accompanied by a sense of pressure, and for the first time morphine was necessary for relief. The sedimentation rate was slightly elevated, and serial electrocardiograms showed the changes of antero-septal myocardial infarction.

Cardiospasm may be accompanied by pain on swallowing and regurgitation of food. Esophageal spasm may cause severe substernal pain and may be induced by dietary indiscretion or nervousness. It is particularly common among high-strung, nervous individuals, heavy smokers, and persons with gallbladder disease.<sup>2</sup> The diag-



nosis may be established by fluoroscopy during an attack, the esophageal pattern usually being normal between attacks.

Pulmonary embolism may give a feeling of oppression in the anterior chest, associated with cyanosis, tachycardia, and signs of shock. If the embolus occludes the secondary branches of the pulmonary arteries, pulmonary infarction with pleural pain, hemoptysis, and signs of consolidation may be present. It is to be emphasized that hemoptysis, physical signs in the chest, and positive x-rays are not always present. If the clot lodges in the primary branches of the pulmonary artery, there may be none of these. In these instances there may be evidence of dilatation of the right side of the heart with accentuation of the pulmonic second sound, and certain electrocardiographic changes. Among the more common findings is the appearance of an S wave in lead 1. The ST segments may be depressed in leads 1 and 2 with a gradual staircase ascent. A Q wave may appear in lead 3, and the T waves may invert in leads 2 and 3. At times transient incomplete or complete right bundle branch block may appear.<sup>5 4 5 6 7</sup> The most common change in the precordial leads is inversion of the T waves in leads taken over the right side of the precordium. Evidence of failure of the right heart, such as distended neck veins and enlarged liver, may be present if the occlusion be severe. The pain in pulmonary infarction is usually located over the lateral aspects of the chest and may radiate to the shoulder or upper abdomen. It is characteristically aggravated by deep inspiration. Evidence of calf muscle tenderness and a positive Homan's sign are important when present, but these are frequently absent, or may be delayed for some days in their appearance. Furthermore, the site of thrombus formation may be within the pelvic veins or within the heart.<sup>5</sup>

Mrs. A. A., aged 60, received a fracture of the pelvis in an auto accident. Nine days later the right calf became sore. Two days later she developed pain in the anterior chest, aggravated by breathing, and signs of shock. A pleural friction rub appeared over the left chest and later over the right chest. There were transient slight jaundice and mild hemoptysis. Electrocardiograms showed changes in serial tracings compatible with pulmonary embolism, and x-rays revealed areas of infarction in both right and left lungs. Recovery was uneventful following therapy with dicoumarol.

Pericarditis may cause pain in the epigastric, substernal, or precordial regions with radiation to the top of the shoulder or arms. It is characteristically aggravated by deep breathing, coughing, sneezing, turning the trunk, or rarely by swallowing.<sup>9</sup> The presence of a pericardial friction rub and electrocardiographic changes involving the ST segments and T waves without accompanying QRS changes in serial tracings is of diagnostic importance. Pericarditis is almost invariably secondary to some other disease process.

A. K., aged 25, developed precordial pain which was aggravated by deep inspiration, coughing, and turning in bed. It radiated to the neck and left arm. This followed a sore throat and was accompanied by a pericardial friction rub and electrocardiographic changes in serial tracings characteristic of pericarditis. There was a low grade fever for one week with transient elevation of the sedimentation rate and a leukocyte count of 13,900. The findings and course were those of acute benign pericarditis.<sup>10</sup>

The pain of neurocirculatory asthenia is usually precordial, frequently in the region of the apex or inframammary region. It may be sharp, lancinating, stabbing, or needle-like. At times it is a dull, oppressive aching lasting for days. The pain is not related to exercise, although it may be worse immediately following exercise; it may be precipitated by emotional tension. Palpitation, dyspnea, sighing respiration, tachycardia, hyperventilation syndrome, and excess sweating are common associated symptoms. In some instances there may be T wave inversion in one or more leads of the electrocardiogram, and this should not be confused with changes due to coronary disease.<sup>11</sup> These are associated with reflex increase in sympathetic tone and may disappear following the administration of ergo-

tamine tartrate.<sup>12</sup>

Rheumatoid arthritis or osteoarthritis of the thoracic spine with radicular pains may simulate angina. There is usually a history of aching or stiffness of the back; frequently there is limitation of expansion of the chest. The discomfort is usually sharp, lancinating, or burning, and may be aggravated by coughing, sneezing, straining, or rotation of the trunk. The close association of pain with movements of the trunk is of utmost importance. Discomfort is not infrequent while in bed. In severe episodes, sweating and signs of collapse may be noted.

T. B., aged 46, was frequently awakened at night by sharp, grabbing precordial pains. These seemed to radiate around the surface of the body. There was some stiffness of the back. The pains were not related to exercise but were aggravated by bending or stooping. Physical examination, electrocardiograms, and x-rays of the heart were normal. There was extensive rheumatoid arthritis of the thoracic spine with mixed arthritis of the bones of the feet.

Spontaneous mediastinal emphysema is characterized by sharp chest pain, mediastinal crepitation or crunch, evidence of air in the mediastinum by x-ray, and absence of fever.<sup>13 19</sup> An associated left pneumothorax is not uncommon. There are usually no abnormal changes in the electrocardiogram.

Spontaneous pneumothorax may give sharp pain aggravated by deep breathing, turning the trunk, etc. Dyspnea is not infrequent if the pneumothorax is of sufficient size or if pleural pain is present. There may be physical signs of limitation of motion, diminished whispered and spoken voice sounds. X-rays in the anteroposterior and lateral views with the demonstration of air may be diagnostic.

W. B., a physician, aged 32, suddenly awakened with a sharp, catching, intermittent pain which was aggravated by forward bending of the trunk and by deep inspiration. It seemed to localize at the angle of the left scapula, but later shifted over the precordium. It radiated to the left side of the neck, to the arms, and to the fingers. The temperature was 98.6 F, with a pulse rate of 80. There was slight limitation of the left upper chest anteriorly, with diminution of breath sounds over this area. A pleural friction rub was heard upon changing from a position of forward bending to the upright position. X-rays revealed a pneumothorax of the left lung. Subsequently the patient developed a loud, pericardial knock, which remained for a few

heart cycles and then disappeared, only to return when the patient maneuvered into another position. Recovery was uneventful following closed aspiration.

Tearing substernal pain with or without radiation to the back usually means dissecting aneurysm. Hypertension is almost invariably present. Following an attack of pain, the pressure remains or returns to a very high level in contrast to myocardial infarction, in which the pressure may drop to low levels or remain normal. If dissection is extensive, there may be signs related to occlusion of other vessels—subclavian, carotid, renal, mesenteric, iliac, etc., with loss of pulsations in one or both arms or legs, hematuria, etc. X-rays may show a dilated aorta with an enlarged left ventricle. The electrocardiogram may show the pattern of left ventricular hypertrophy, or rarely, coronary insufficiency if the dissection involves the coronary ostiae.<sup>14 15</sup> Myocardial infarction may be suspected clinically, but the absence of electrocardiographic changes of infarction in serial tracings and the absence of the expected drop in blood pressure may direct attention to the possibility of dissecting aneurysm.

C. M., aged 66, developed a sudden, severe, tearing substernal pain which radiated between the shoulder blades and down the arms to the elbows, followed by periumbilical pain, nausea, vomiting, and diarrhea. The blood pressure was 170/90 in the left arm and could not be obtained in the right arm. The heart was markedly enlarged, with a systolic murmur at the apex and a pericardial friction rub over the precordium. The lungs were filled with moist rales. A diagnosis of dissecting aneurysm was made, and eight days later the patient died suddenly. At autopsy there was a hemopericardium, the result of a dissecting aneurysm of the aorta, beginning in an intimal tear at the origin of the left subclavian artery with retrograde extension and rupture into the pericardial sac and dissection along the innominate, left subclavian, superior mesenteric, right renal, and both external iliac arteries.

Bronchiogenic carcinoma may cause pain in the anterior chest. Dyspnea, cough, and fever are frequent associated symptoms. X-ray and bronchoscopic examinations may aid in establishing the diagnosis.

Herniation of a cervical disc may at times result in pain in the anterior chest.<sup>16 17</sup> There are usually radicular pains with paresthesias in the neck, shoulder, arm, and anterior



or posterior part of the chest. Pain may be increased on coughing, sneezing, or straining. It may be relieved on forward bending of the head and increased on lateral bending of the head toward the side of the lesion. Sensory changes in a segmental distribution in the neck, chest, or arm occur with at times reflex changes, muscle atrophy, or fibrillation. X-rays may reveal narrowed intervertebral spaces with obliteration of the normal lordotic curve. Oblique films may show encroachment or narrowing of one or more foraminae. Elevated spinal fluid protein and positive myelograms are at times present.

Cervical arthritis may give similar symptoms; however, there is usually more stiffness in the neck, and x-rays reveal more extensive arthritic changes.

Mr. L. R., aged 57, complained of a pulling, tearing sensation in the neck upon turning the head to either side over a period of six months. He noted stiffness of the muscles of the neck. The discomfort was aggravated by coughing, sneezing and straining at the stool, but was not related to exercise. Occasionally there was a sharp pain over the left upper chest, in the shoulders and arms, with numbness and tingling of the hands. This was more marked on the left side and was accompanied by weakness of the left arm. A grating sensation occurred on turning the head, and at times a sharp pain radiated from the neck to the left shoulder, arm, and upper chest. There was some aching and stiffness in the knees and toes. The heart was normal, and the blood pressure was 120/76. The electrocardiogram was normal. X-rays of the cervical spine showed osteoarthritic spurs projecting from the lateral margins of many of the cervical vertebral bodies. The intervertebral spaces were narrowed, with slight compression of the anterior portion of the body of C6.

It is rare for intra-abdominal conditions to cause confusion with diseases of the chest, but gallbladder disease on occasion causes pain in the chest, particularly in the lower substernal region. Radiation to the back or right shoulder may occur. The pain is not related to exercise, but may occur at night or after dietary indiscretion. It is more often colicky and associated with nausea and vomiting. A history of dyspepsia, gallstone colic, or jaundice, and the presence of localized tenderness over the gallbladder is helpful. Rarely there may be T wave changes in the electrocardiogram which may cause confusion with coronary disease;

furthermore, the two conditions are commonly associated.

Mrs. R. G., aged 44, had been treated for heart disease for three years. She complained of substernal, right upper quadrant, and precordial pain which radiated beneath the left scapula and to the left arm. This was not related to exercise, but was prone to occur at night. There was a history of mild chronic dyspepsia, but no jaundice. She had become quite apprehensive about her heart and developed dyspnea, sighing respiration, excessive sweating, flushing, and nervousness. The heart was normal upon examination, and the blood pressure was 124/84. A routine electrocardiogram with six precordial leads was normal. X-rays of the gallbladder revealed the presence of stones. Following reassurance and removal of the gallbladder all symptoms subsided.

Scalenus anticus syndrome, cervical rib, hyperabduction syndrome,<sup>18</sup> cord tumor, herpes zoster, tumors of the thoracic cage, myositis, and neuritis are other less common causes of pain in the anterior chest.

### Summary

The differential diagnosis of pain in the chest, with illustrative case reports, has been presented. There are many causes of chest pain. Some are important, others are insignificant. Every attempt should be made to determine accurately the cause for such pain in order that proper management be instituted. The diagnosis of coronary disease is all too often made on insufficient evidence or an inadequate history.

### BIBLIOGRAPHY

1. Jones, Chester: Hiatus Esophageal Hernia with Special Reference to a Comparison of its Symptoms with those of Angina Pectoris, *New England J. Med.* 225: 963-972, (Dec. 15) 1941.
2. Wolferth, C. C., and Edeiken, Joseph: The Differential Diagnosis of Angina Pectoris with Special Reference to Esophageal Spasm and Coronary Occlusion, *Pennsylvania M. J.* 45: 579-584.
3. McGinn, Sylvester, and White, P. D.: The Acute Cor Pulmonale Resulting from Pulmonary Embolism, Its Clinical Recognition, *J. A. M. A.* 104: 1473, 1935.
4. Barnes, Arlie: Diagnostic Electrocardiographic Changes Observed Following Acute Pulmonary Embolism, *Proc. Staff Meet., Mayo Clin.* 9: 1, 1936.
5. Sokolow, M. N.; Katz, L. N., and Muscovitz, Alfred: The Electrocardiogram in Pulmonary Embolism, *Am. Heart J.* 17: 423, 1939.
6. Logue, Bruce: Acute Cor Pulmonale, *J. M. A. Georgia* 31: 163-167 (April) 1942.
7. Durant, F. M.; Ginsburg, I. W., and Roesler, H.: Transient Bundle Branch Block and Other Electrocardiographic Changes in Pulmonary Embolism, *Am. Heart J.* 17: 423, 1939.
8. Moran, Thomas J.: Pulmonary Embolism in Nonsurgical Patients with Prostatic Thrombosis, *Am. J. Clin. Path.* 17: 205-208, 1947.
9. Barnes, Arlie, and Burchell, Howard: Acute Pericarditis Simulating Coronary Occlusion, *Am. Heart J.* 23: 247 (Feb.) 1943.
10. Logue, R. B., and Wendkos, Martin H.: Acute Benign Pericarditis, A Report of Seventeen Cases. To be published.
11. Logue, R. Bruce: Electrocardiographic Changes in Neurocirculatory Asthenia, *Am. Heart J.* 28: 574-577 (Nov.) 1944.
12. Wendkos, Martin H., and Logue, Robert B.: Unstable T Waves in Leads 2 and 3 in Patients with Neurocirculatory Asthenia, *Am. Heart J.* 31: 711-723 (June) 1946.
13. Hamman, Louis: Mediastinal Emphysema, *Tr. A. Am. Physicians* 207: 561-587 (May) 1944.

14. Logue, Bruce: Dissecting Aneurysm of Aorta, *Am. J. M. Sc.* 206: 54-66 (July) 1943.
15. Bayley, R. H., and Monte, L. H.: Acute, Local, Ventricular Ischemia, or Impending Infarction, Caused by Dissecting Aneurysm, *Am. Heart J.* 25: 262-270 (Feb.) 1943.
16. Josey, Allen L., and Murphey, Francis: Ruptured Intervertebral Disk Simulating Angina Pectoris, *J. A. M. A.* 131: 581-587 (June 15) 1946.
17. Tucker, John: Some Observations Concerning Pain in the Neck, Upper Chest, and Arms, *Cleveland Clin. Quart.* 14: 37 (Jan.) 1947.
18. Wright, Irving S.: Neurovascular Syndrome Produced by Hyperabduction of Arms; Immediate Changes Produced in 150 Normal Controls and Effects on Some Persons of Prolonged Hyperabduction of Arms in Sleeping and in Certain Occupations, *Am. Heart J.* 29: 1-19 (Jan.) 1945.

#### DISCUSSION OF PAPERS BY DRs. HAILEY, HICKS AND LOGUE

DR. JAMES J. CLARK (Atlanta): I should like to discuss this very excellent paper which Dr. Hicks has presented. It is extremely timely in Georgia, as the State Compensation Commission has recently placed silicosis among the compensable diseases. It no doubt surprises many of you to realize that silicosis is a real disease in Georgia, especially in the mining centers, and that up to now it has been responsible for a great deal of permanent disability to the employees who contracted this disease.

It has been very surprising to me to find a large number of men with moderately and advanced silicosis during this past year. The reason is undoubtedly due to the fact that the insurance carriers have had all of these men who are exposed to dust examined, as they date their coverage from the time the law went into effect.

The diagnosis of silicosis is a serious problem, and requires thoughtful study. Dr. Hicks has emphasized the value of a good history, and this is most important. I believe every time we look at an x-ray study of the chest of an adult male, we should know his occupation so that silicosis can be thought of. Frequently early silicosis and sometimes advanced silicosis simulate many other diseases in the lungs, especially such disease as virus pneumonia, bronchitis, tumors and frequently tuberculosis which, of course, is a danger to these patients, as frequently silicosis seems to render the patient less responsive or less reactive to minimal tuberculosis exposure.

Dr. Hicks also brought out the value of an x-ray examination of the chest of any man before he goes into any employment where the air may be contaminated, and stated that the record should be preserved. This is important, as many men go from one job to another, and they may have sustained a silicosis condition in some other mine so that if they are employed in a new job, this liability may be tied up with a new employer.

This disease is very disabling in an advanced stage. Men are short of breath. Frequently they can hardly get around the house, or do even any light job. They are especially susceptible to tuberculosis and heart disease.

While the importance of diagnosis of actual silicosis cannot be denied, the employers in this type of work where there is exposure to silicotic material should ever be on the alert to avoid having the employees contract this disease. The amount of dust in the atmosphere of the mines, the quarries or the grinding pit should be studied and measured. The use of inhalators or respirators should be enforced. The employees should be examined certainly at yearly intervals to detect any evidence of the disease, in order that the occupation may be changed.

I have enjoyed Dr. Hicks' paper very much, and feel that it is very timely, that it should be read before this Association.

DR. H. C. ATKINSON (Macon): Having been unable to establish a common denominator for these four fine papers, and not wishing to ride off in all four directions at one time, it seems best that I limit my brief discussion to Dr. Hicks' paper, as I understand that other doctors are going to discuss the other three papers.

Dr. Hicks has given us a very timely study and review of the condition known as silicosis. In reading and listening to his paper it seems to me appropriate that we call attention to the fact which he points out, but which we not infrequently forget, that silicosis is not the only one of the dust diseases. It is about the most common and most serious; but other dusts do cause other dust diseases and must be borne in mind, such as allergic reaction to dust, chemical irritation from inhaled dust, causing chronic bronchitis, etc. Only those dusts which contain silica will cause the typical reaction which he describes. The severity of the reaction is directly in proportion to the concentration and inversely proportional to the size of the dust particles.

In a doubtful case it is important to demonstrate that silica has been inhaled. Examination of the sputum has not proved very helpful. However, examination of the suspected dust is very important in a suspected case. One addition to the differential diagnosis might be mentioned as histoplasmosis, which has received considerable interest and attention recently. This can be diagnosed by the use of skin tests with histoplasmin, which has been recently developed.

I thoroughly agree with Dr. Hicks as to the necessity of general recognition of the importance of the prevention of this widespread industrial disease, for which we have no treatment other than prevention.

DR. J. A. REDFERN (Albany): I want to say just a few words about Dr. Logue's paper, to emphasize the importance of looking for a diaphragmatic hernia. That is one of the causes, when present; and it is occasionally present in chest pain. I recall some years ago that a doctor in Albany referred to me, for an electrocardiogram, a man apparently in good health. The electrocardiogram was normal. That man had had an x-ray examination of his chest and gastrointestinal tract, and everything appeared normal. Two or three years later he was referred to me by another Albany doctor for an electrocardiogram, which was normal. Again he was studied. He continued to complain of chest pain and finally it was the opinion of at least one of his physicians that it was a problem of functional disorder, which of course is a very common condition. After several years this man wandered off to the Mayo Clinic, where a hernia was diagnosed. They assured him that, as he was at that time about 50 years old and in good health, probably the best solution was to leave it alone, which he has done. He is perhaps about 57 now and still in good health. The functional disorder has passed away, and he is not disturbed.

The point they brought out at the Mayo Clinic (and perhaps it has been used in many other places, but the first I heard of that particular point was from that clinic) was that in fluoroscopy the patient, when you are giving the barium and studying the esophagus and so on, by all means have the patient hold his breath and strain as hard as he can. That will increase the abdominal pressure so that in all probability the barium will be pushed up, if it is in the stomach or colon.

DR. McCLAREN JOHNSON (Atlanta): I want to say a word about Dr. Logue's paper, only. I am by no means a cardiologist, but fortunately I know him. I had one case last year so interesting from the standpoint of differential diagnosis of chest pain that



I think it bears mentioning here, and I hope Dr. Logue will comment on it.

This patient was an insurance agent in his late fifties who had disabling retrosternal pain for the last six years. The pain was brought on usually by motion. If there was any emotional factor I do not remember it. He had been examined hither and yon over a period of years and gave a long list of doctors that I believe he exaggerated somewhat, because I believe he counted every intern to make it impressive. When he consulted me I told him it sounded like cardiac pain and asked him if he wanted me to examine him anyway. He said he did, because he had an idea that the trouble was in his stomach. So with much misgiving I examined him and found he had one of the items Dr. Logue mentioned—a small hiatus hernia. He had had complete examinations in different hospitals; I am glad to say that all of them were not in Atlanta. But apparently he never had been examined in the Trendelenberg position. He was referred to another physician and had a dilatation, which relieved him somewhat. It has returned, and he will have to have an operation.

The pain was relieved by nitroglycerin. He did not tell me that until after I had completed the examination, and when he did I was completely flabbergasted. Since then, however, I have been told that the pain of hiatus hernia is sometimes relieved by nitroglycerin.

I should like to have Dr. Logue's comment on this situation.

DR. WM. L. DOBES (Atlanta): As usual, Dr. Hailey presented an excellent paper, which I have thoroughly enjoyed. He has done much investigative work on eczema and his discussion and Kodachromes were instructive.

Many years ago, or really not so very many years ago, the term eczema was used for any wet or scaly inflammation of the skin, the true nature and cause of which were unknown to the observer. As dermatology progressed as a specialized science, various diseases were extracted from this large group of diseases called eczema. One of the first was scabies, which, as you know, is a parasitic disease. Later pompholyx, dermatophytids, bacterids, infectious eczematoid dermatitis and other dermatoses were extracted. As in various other diseases, we find that today the term "eczema" is frequently misused by some physicians. The term is somewhat similar to the term "rheumatism". It can mean almost anything.

The dermatologist has to determine the type of eczema. In trying to determine the type, an attempt is made to stress the etiological agent or some descriptive characteristics, in order to have a better working basis. Thus we have a mycotic eczema, contact eczema, hemostatic eczema, seborrheic eczema, allergic eczema, auricular eczema, etc. As I understand it, Dr. Hailey uses the term "eczema" in his present paper as referring to an inflammatory reaction of the skin indicative of epidermal sensitization. This would mean an eczematous dermatitis in the limited sense.

We find eczemas of the body orifices chronic, recurring and at times difficult to clear. Undoubtedly diet plays an important part in many cases of eczema of the body orifices. However, other possible causes should not be neglected. In some of my cases I believe that fungus infection played a definite role. Several years ago I decided to do routine vaginal cultures for monilia albicans in women who complained of pruritus ani et vulvi and who showed eczematization of the privates or perianal area. Many of the cases grew monilia on culture. A surprising number of these cases were benefited and often completely cured when this infection was brought under control.

Urbach in 1945 wrote an article on "Skin Diabetes". In his cases he found hyperglycemia without hyperglycemia. (J. A. M. A. 129:438-440, Oct. 6, 1945.) In

some of my cases of eczema, some of which were of the body orifices, I have found a hyperglycemia. A low carbohydrate diet was of great benefit. Eczema of the body orifices associated with severe itching, especially pruritus ani et vulvi, has been reported in diabetics and controlled with a diet and insulin.

Also, in some of my cases, even in young people, I have found a deficiency or complete lack of hydrochloric acid in the stomach. These patients are benefited by taking dilute hydrochloric acid and B complex by mouth; crude liver extract also is of value. These findings have been substantiated by other dermatologists. (South. M. J. 38:235-241, April, 1945.)

Neurocirculatory instability is not the least in importance in some cases of pruritus and eczema around the anal orifice and the vulva. In these patients we find the individual to be a high strung, nervous, emotional person who worries a great deal, becomes easily upset or shows signs of mental or physical overexertion. These patients frequently are greatly benefited under the guidance of a competent psychiatrist. X-ray treatments will usually help these patients but recurrence is common unless the basic underlying cause is attacked.

Personally, I use superfatted soaps and sulfonated oils for cleansing. In eczemas, the skin is frequently dry and scaly. A dry skin often itches, even if otherwise normal. The drier it gets the more it itches. Soap, being alkaline, usually removes the small amount of natural oil that may be present. The skin becomes too dry and irritated, especially when traumatized by scratching. Bland oils and sometimes ointments are beneficial in these cases.

Dr. Hailey's comment on roentgen ray therapy is a timely one. When a patient fails to respond to local medication, frequently the physician is tempted to refer the case to a colleague for a "shot" of x-ray. Most cases respond to x-ray treatments but frequently this gives only temporary relief. The patients themselves find it least troublesome to periodically visit a physician who has the facilities and get a "little x-ray". They get a little "lick" here and a little "lick" there and end up with an x-ray burn. The physician should always obtain the record of previous roentgen ray treatments before exposing the patient to the risk of an overdose.

DR. BRUCE LOGUE (Closing): With regard to Dr. Johnson's case, the relief of hiatus-hernia pain by a small dose of nitroglycerin is not uncommon. It is due to relaxation of the smooth muscle. We do not see, however, the complete relief we see in angina. More often we get complete relief with an antispasmodic.

We saw a patient with angina who had nocturnal pain and found that he had hiatus hernia. His discomfort was relieved by atropine.

Another patient with known hiatus hernia for five years had pain which was somewhat different from her usual attacks, and her pain was found to be due to myocardial infarction. So it does pose a problem.

DR. THOMAS J. HICKS (Closing): I wish to thank Dr. Clark and Dr. Atkinson for so kindly discussing my paper.

I wish to say to the members of the Medical Association of Georgia that we have a most unusual condition in my section of North Georgia. Silicosis being strictly an occupational disease is not generally prevalent in Georgia, but is confined to industrial areas where dust is abundant, as in workers about rock quarries, cement factories, pottery and glazing plants, marble cutters and polishers, and in the mining industry.

In the counties of Fannin, Union, and Gilmer we probably have 500 disabled silicotic men in various stages of the disease. Many of these men are totally and permanently disabled before the age of 40, after only a few years of employment in dusty atmosphere.

The Georgia Compensation Board does not pay or

recognize the disability of these loyal Georgia citizens because their dust was acquired across the state line in Tennessee.

I wrote the Georgia Compensation Board to come up and visit and investigate this condition, and they promised to send a mobile x-ray unit and make a study of the workers in this area, but so far they have not come or offered any solution.

So you see the Tennessee Compensation Board will not pay these men because they live in Georgia and the Georgia Compensation Board will not pay them because they were disabled on dust acquired in Tennessee. Therefore, these men are left out in the cold, far too young for the old age pension. I wish something could be done for these fellow citizens of mine who live in North Georgia, many of whom are ill and their families in distress.

## THE RATIONAL USE OF IRON, FOLIC ACID AND LIVER IN ANEMIA

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While the separation of anemias into several classes was not possible until the development of modern technic for the examination of the blood, the actual pathogenesis of the macrocytic type of anemias is still poorly understood. Greater emphasis, therefore, must be given to accurate diagnosis before the institution of therapy against any type. For convenience of classification, anemias can be divided into three large groups:

1. Hypochromic iron deficiency.
2. Hyperchromic macrocytic.
3. Hemolytic.

Hypochromic anemia is the hematologic term applied to anemic states which are characterized by a deficiency in hemoglobin. This group is the most common of all anemias, and it has been estimated<sup>1</sup> comprises from 90 to 95 per cent of anemias seen in general practice.

Iron is the single most important constituent of the hemoglobin molecule. In the first group replenishment of iron only is essential; in the second, liver extract and folic acid are of value. The third is a group

responding specifically to none of these products. Its successful management, when possible, is directed against the devious factors producing hemolysis of blood, and will not be considered in this paper.

The fundamental concepts of iron metabolism have changed in recent years, largely as the result of investigation with radioactive isotopes. Dietary iron is of two types: organic and inorganic<sup>2</sup>. Organic iron is present principally in the form of iron porphyrin compounds which must be converted to an ionizable form to be utilized. This conversion is accomplished in part by the gastric hydrochloric acid which aids in reducing, ionizing, and dissolving the organic form into inorganic bivalent ferrous, or the trivalent ferric state. By using radioactive iron Moore<sup>3</sup> and Hahn<sup>4</sup>, in separate laboratories, demonstrated that human subjects absorb ferrous iron more efficiently than ferric iron. Dogs absorbed both valence forms, although in some instances ferrous better than ferric forms. The absorption of radioactive ferrous and ferric iron by rats was equal<sup>5</sup>. These observations have demonstrated a species difference in absorption of bi- and trivalent iron and probably accounts for the disagreement between clinical and animal investigators in the past. Iron is absorbed chiefly in the duodenum<sup>6</sup>, being dependent upon the concentration of iron in the intestine, the solubility of the iron salt, and in the human being at least upon the presence of various reducing substances in the diet, such as ascorbic acid and calcium.

Very little, if any, iron is absorbed or excreted by the large intestine. Whipple et al<sup>11</sup>, using radioactive iron isotopes on dogs, concluded that the gastrointestinal mucosa has the capacity to accept or reject iron depending upon the body needs. The evidence indicates that the body regulates the iron stores by controlling absorption rather than elimination, and when iron gains entrance into the body it remains



there. Approximately 1 milligram of iron per day is excreted through the urine, bile, and intestine.

The most common causes of a hypochromic iron deficiency anemia are:

1. Inadequate iron intake in the diet.
2. Blood loss; acute or chronic.
3. Intestinal parasites.
4. Pregnancy.
5. Malaria.
6. Malignancy.
7. Intestinal diseases.
8. Infections; acute or chronic.

The diagnosis of hypochromic anemia is determined by:

1. Low hemoglobin values.
2. A color index well below 1.
3. Hypochromia to central achromia of the stained cells accompanied by microcytosis, variation in cell size, and shape depending upon the severity of the deficiency.
4. Reduced cell indices (Wintrobe method). (a) Mean corpuscular volume below 80 cu. microns (normal 80-94). (b) Mean corpuscular hemoglobin below 27 micromicrograms (normal 27-32). (c) Mean corpuscular hemoglobin concentration below 33 per cent (normal 33-38).

Bone marrow studies are not necessary for a diagnosis but when done reveal a hyperplastic marrow<sup>6</sup> with a predominance of the more mature nucleated erythrocytes indicating a maturation arrest at the macroblastic and the normoblastic stage secondary to deficiency of iron.

Therapy of hypochromic anemia consists first in the administration of iron: 15 to 45 grains of ferrous sulfate are given daily in divided doses with or after meals. Iron preparations have an irritating effect on the gastrointestinal mucosa when in high concentrations. It is for this reason that iron salts are not administered before or between

meals. Secondly, a full diet adequate in protein, minerals, and vitamins is important. Correction of blood loss is presumed. Dilute hydrochloric acid can be given with the meals in cases with gastric achlorhydria. This aids in converting the insoluble organic iron in the food to the soluble inorganic ferrous state which is capable of absorption. However, so long as the diet is supplemented by ferrous sulfate, therapeutic hydrochloric acid seems unnecessary. Ferrous gluconate is frequently tolerated by those patients evidencing gastric intolerance to ferrous sulfate, and is administered in the same doses as ferrous sulfate. The parenteral use of iron is unnecessary so long as iron can be taken by mouth. Iron preparations are poorly absorbed and painful when given intramuscularly. Liver is not indicated and is a needless expense. Folic acid is ineffective in the correction of hypochromic iron deficiency anemias.

The recent introduction of a synthetic chemical compound of known molecular structure, pteroylglutamic acid—folic acid, so-called—has added greatly to the therapy of the macrocytic anemias. It has been identified as a growth factor for the *Lactobacillus casei* and may be considered the newest of the vitamins in the B complex group.

The macrocytic anemias are characterized by large cells which are well filled with hemoglobin, have a color index over 1, and high cell indices. The most common macrocytic anemias are:

1. Addisonian pernicious anemia.
2. Nutritional.
3. Pregnancy.
4. Pellagra.
5. Sprue.
6. Liver disease.
7. Macrocytic anemia of infancy associated with a megaloblastic marrow.

### 8. Anomalies and disorders of the gastrointestinal tract.

The macrocytic anemias of pregnancy, sprue, pellagra, liver disease and anomalies of the gastrointestinal tract may well be regarded as belonging to the nutritional group.

It seems apparent that folic acid is as effective in producing and maintaining blood regeneration at satisfactory levels in macrocytic anemias as is liver extract. It does not, however, protect against degenerative central and peripheral nervous system changes which frequently develop in persons with Addisonian pernicious anemia; nor does it reverse these neurologic changes once they have developed<sup>9 10</sup>.

Folic acid is indicated in macrocytic anemia accompanying or secondary to pregnancy, pellagra, liver disease, or gastrointestinal disorders. Sprue and in particular nutritional and pernicious anemia require diagnostic differentiation, as folic acid alone is not sufficient in the latter.

Sprue is characterized by dietary deficiency with varying evidences of pellagra, beri-beri, or ariboflavinosis, fatty diarrhea, usually the presence of free hydrochloric acid in the stomach, and the absence of neurologic involvement. The distinction between nutritional and Addisonian pernicious anemia is sometimes difficult, particularly in elderly patients. Nutritional anemia usually, but not always, tests positive for free gastric hydrochloric acid, gives a history of dietary deficiency, frequently has signs of avitaminosis, rarely of neurologic involvement, and responds to an adequate diet, whereas pernicious anemia is characterized by gastric achlorhydria following histamine stimulation, frequent neurologic involvement, rarely history or signs of dietary deficiency, and a lack of response to an adequate diet. Today the best single distinguishing feature between true pernicious anemia and macrocytic anemia of nu-

tritional origins is the absence of free hydrochloric acid in the former, and its presence in the latter.

### *Therapy*

Spies<sup>9</sup> suggests a daily dose of 20 milligrams of folic acid by mouth, or by injection if for any reason the patient is unable to take the drug or absorb it when taken orally. He has observed no instance in which liver extract proved effective in restoring blood regeneration after 20 milligram daily doses of folic acid failed. Folic acid has relatively no toxicity. Spies<sup>9</sup> administered 400 milligram doses daily for three months without toxic effect. It is probable that 10 or 15 milligrams will prove to be sufficient daily doses.

Pernicious anemia with neurologic lesions requires large doses of liver extract. A satisfactory regimen is:

1. Thirty units daily for seven days.
2. Sixty units weekly until the red cell count reaches 4.5 million.
3. Thirty units weekly thereafter until the maximum neurologic response has been attained. When the neurologic response is poor some hematologists prefer to add 2 cc. of crude liver extract to each dose of the refined form.
4. Fifteen units each three weeks thereafter.

Folic acid in daily doses of 10 to 15 milligrams can be used to supplement rather than substitute for liver extract in an effort to supply a maximum amount of a known erythrocytic maturation factor.

Pernicious anemia without neurologic involvement does not require such large doses as listed above. A suitable regimen is:

1. Thirty units daily for four days.
2. Thirty units bi-weekly for four weeks.
3. Fifteen units weekly until the red



cell count reaches 4.5 million.

4. Fifteen units each month thereafter.

If folic acid is utilized in pernicious anemia without neurologic involvement it is advisable to use:

1. Ten to 20 milligrams of folic acid daily by mouth.
2. Plus a minimum of 1 unit of liver extract daily. This is equivalent to 1 cc. of refined 15 unit liver extract each two weeks until the red cell count reaches 4.5 million and the patient is well established in a state of remission.

Myer<sup>10</sup> observed five patients with pernicious anemia on 5 to 10 milligrams of folic acid daily combined with suboptimal doses daily of liver extract intramuscularly which obtained a reticulocytosis greater than that anticipated from liver extract alone. It is probable that the combined use of folic acid and liver extract will be the method of choice. Folic acid supplies the maturation factor for the erythrocytes but there is evidence accumulating that it is not the anti-neuritic factor as there is some other undetermined substance responsible for complete clinical and neurologic remission.

#### REFERENCES

1. Kracke, R. R.: *Diseases of the Blood*, Philadelphia, J. B. Lippincott Company, 1941, ed. 2.
2. Elvehjem, C. A.: *J. A. M. A.* 98: 1047, 1932.
3. Moore, C. V.; Dubach, R.; Minnich, V., and Roberts, H. K.: *J. Clin. Investigation* 23: 755, 1944.
4. Hahn, P. E.; Jones, E.; Lowe, R. C.; Meneely, G. R., and Peacock, W.: *Am. J. Physiol.* 141: 191, 1945.
5. Austoni, M. E., and Peabody, D. M.: *J. Biol. Chem.* 134: 27, 1940.
6. Witts, L. J.: *Lancet* 1: 1, 1936.
7. Moore, C. V., et al: *J. Clin. Investigation* 18: 553, 1939.
8. Fisher, R. S., and Peabody, W. A.: *Proc. Soc. Exper. Biol. & Med.* 46: 207, 1941.
9. Spies, Tom D.: *Experiences with Folic Acid*, Chicago, The Year Book Publishers, 1947.
10. Meyer, M. D.: *Blood*, 2: 50, 1947.
11. Balfour, W. M.; Hahn, P. F.; Pommerenke, W. T., and Whipple, G. H.: *Exper. Med.* 76:15, 1942.

#### FLORIDA MIDWINTER SEMINAR IN OTOLARYNGOLOGY AND OPHTHALMOLOGY

This year the University of Florida Midwinter Seminar in otolaryngology and ophthalmology will be held at the Flamingo Hotel in Miami Beach, beginning January 12 and continuing through January 17, 1948. The lectures in otolaryngology will be presented on the twelfth, thirteenth and fourteenth, and those in ophthalmology on the fifteenth, sixteenth and seventeenth. The registration fee will be \$25.

The distinguished lecturers for the courses in otolaryngology include Drs. Lawrence R. Boise, Minneapolis; Louis H. Clerf, Philadelphia; Kenneth M. Day, Pittsburgh; Thomas C. Galloway, Chicago; James H.

Maxwell, Ann Arbor, Mich.; Arthur W. Proetz, St. Louis; and Harry P. Schenck, Philadelphia. Among the outstanding ophthalmologists who will lecture are Drs. S. Judd Beach, Portland, Me.; William L. Benedict, Rochester, Minn.; Daniel B. Kirby, New York; Peter C. Kronfeld, Chicago; and Dohrmann K. Pischel, San Francisco.

The midwinter seminar follows immediately the Pan-American Congress of Ophthalmology, which will be held in Havana, Cuba, January 5-10, 1948. The dates chosen for the two meetings make possible a delightful opportunity to attend both and at the same time enjoy a winter vacation amid unsurpassed resort attractions.

#### DIABETICS SHOULD BE HOPEFUL

"You have diabetes," says your doctor and immediately there comes into your mind the thought of hopelessness and invalidism.

There is no need for such an attitude, for today the control of diabetes is well established, resting almost entirely in the hands of the diabetic himself, according to a *Health Talk* issued by the Educational Committee of the Illinois State Medical Society.

Since the discovery of insulin, the doctor can teach the patient how, with proper diet and insulin, he or she can control the disease.

The word "diabetes" stems from Greek roots meaning a "pouring out." In the case of diabetes it is the pouring out of abnormal amounts of urine which contains sugar. In normal persons there is no sugar in the urine ordinarily. In the individual with diabetes, the gland called the pancreas, located behind the stomach, fails to produce a sufficient supply of insulin, a hormone essential to the conversion of sugar into energy. When the unused sugar reaches a certain level in the blood it is removed by the kidneys. Before insulin, diabetes was a long, difficult, always fatal disease.

Because there is apparently some hereditary angle in diabetes, it is important for persons coming from a family where diabetes is known to be alert for symptoms of the disease.

Diabetes is not generally painful, though sometimes it is first noticed in neuralgia or pain in the toes. It is not contagious. Important symptoms are loss of weight, excessive thirst, lack of energy, fatigue and frequent urination. The loss of weight is most marked in persons who have previously been overweight and it seems that in this group of overweight persons there is a tendency toward diabetes.

Knowledge, intelligence and character are three essentials in controlling diabetes. Death is certain for diabetics who ignore the rules. It is a burdensome thing to weigh food, for example, as is necessary for the diabetic, assuring the patient of a proper weight balance. Carbohydrates, such as sugar and starch, and fat must be balanced in the body according to a formula established for the individual patient by the doctor. Then the patient must learn how to test urine for sugar, a simple process also taught him by the family physician. If it is necessary to take injections of insulin, the patient must learn the technic bravely and willingly. Increased attention must be given to the care of the skin and feet, guarding against carbuncles and boils on the skin and gangrene and infection of the toes, for a diabetic is especially liable to infection.

This is where intelligence and character play an important role. Dividends are a normal life, insofar as energy and activity are concerned, and a longer life.

The wise person will have an annual physical examination. Then, if diabetes is detected, your doctor will help you establish a normal routine for your individual case.

Don't feel that everything in life has ended if you develop diabetes. Trust your doctor. With your cooperation, he will help you live a long and satisfactory life.

## VACCINIA INVOLVING THE EYELID

*Report of Case*

J. H. PRITCHETT, JR., M.D.  
Bremen

D. S. REESE, M.D.  
Carrollton

A 26-year-old white housewife was first seen on Sept. 25, 1947, complaining of itching, stinging and burning of the right eye.

Five days previously she had first noted itching and stinging of the right lower lid and on examining the eye, with the aid of a mirror, she noted two "little red spots on the lower lid". Since she suffered with asthma and allergic rhinitis in the fall, she assumed that the itching and stinging of the lids were part of her allergy. She stated

was covered by a tough membrane. Each pustule was deeply umbilicated. There was shotty preauricular adenopathy. Otherwise there was no change in the appearance of the eye. She was given zinc sulphate eye drops, and a bland ointment to use in the conjunctival sac.

On September 27 a fresh papule began to form at the inner canthus of the eye which became an umbilicated pustule the next day. On September 29 the inflammatory process seemed to have reached its height, and then there was a gradual decline until October 5 when only pitted scars remained. At no time during the illness had there been constitutional symptoms.

The patient had been questioned on the transition of the papules to umbilicated pustules as to whether one of her children had been recently vaccinated. She stated that two weeks prior to onset of her symptoms her four-year-old son had been vaccinated and that he had had a terrible

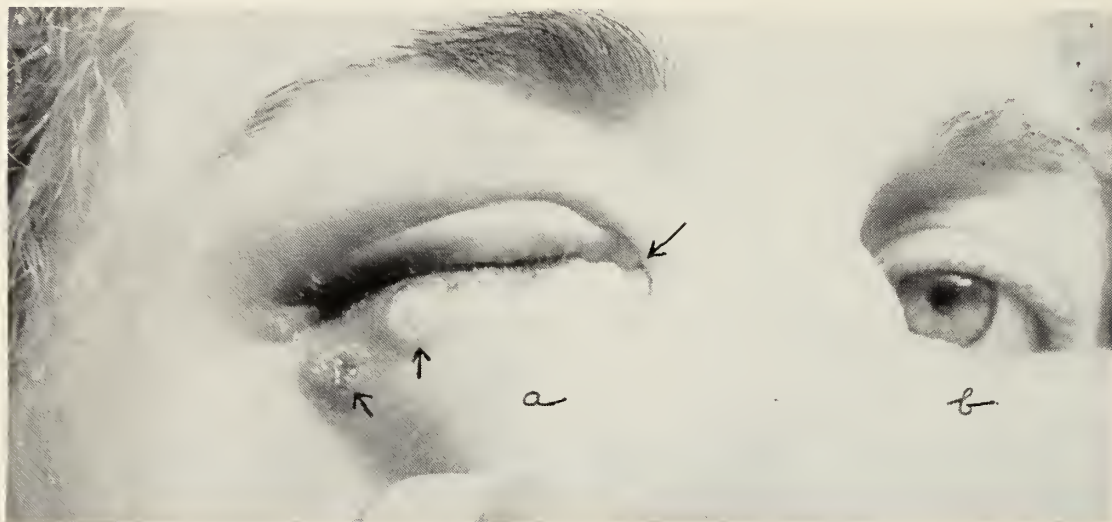


Figure 1.

Vaccinia lesions of the lower lid of the right eye (a). Note the umbilications and the marked edema. Left eye (b) shown for comparison.

that she had previously had itching of both eyes and had rubbed them. She came for examination due to the increase in tearing from the right eye, and increase in the size of the papules.

Physical examination revealed two papules on the right lower eyelid approximately 4 mm. in diameter, just lateral to the center of the lid. Noted were marked palpebral edema, profuse tearing, and redness of the lower lid. The palpebral conjunctiva was moderately injected, and the bulbar conjunctiva showed peripheral injection. The cornea was entirely free of involvement, and the pupil was active. The anterior chamber was clear, and the fundus, though poorly visualized, seemed normal. Scrapings from the conjunctival sac showed only the usual contaminants.

She was seen again the next day at which time the papules had become pustules, each of which

sore. She vigorously denied, however, that she had touched the sore. The next day she spontaneously reported that on mentioning the matter to her aunt, the aunt stated that she had seen her wipe the exudate from the child's arm with a tissue which she absent-mindedly balled up in her hand. She also reported that with the allergic rhinitis she often rubbed her eyelids. It was also considered of interest that the patient had never had a successful vaccination although vaccination had been attempted several times in childhood.

*Summary*

The case here reported is believed to be a transfer of cowpox from one individual to another, the virus lodging in previously traumatized skin and producing lesions typical of vaccinia. It was considered of interest that the cornea was spared.



### INDELIBLE DYE IN LIPSTICKS MAY CAUSE ERUPTION, SAY DERMATOLOGISTS

The dye used to make lipsticks "indelible" is a common cause for lipstick dermatitis, an eruption affecting the lips, three Chicago dermatologists report in the current *Archives of Dermatology and Syphilology*, published by the American Medical Association. Fortunately, treatment is simple: just change to a lipstick that makes no claims to indelibility.

The three writers, Samuel J. Zakon, M.D., Aaron L. Goldberg, M.D., and Julius B. Kahn, B. S., cite 32 cases of lipstick dermatitis caused by sensitivity to indelible dye which were seen in one year of private practice. Among the symptoms were cracked, swollen, dry or burning lips. In some cases the irritation had spread to the eyes, the rest of the face or the body. Most of the patients had had the symptoms for several months or even years without being aware of the cause.

The writers explain that the United States government certifies to the chemical standards used in lipstick dyes and pigments, but makes no attempt to consider their allergenic properties. Sensitivity to the pigments is rare, but "sensitivity to the dye is more frequent than is commonly realized."

### RADIOACTIVITY FROM SINGLE LUMINOUS CLOCK CALLED INSIGNIFICANT

Radioactivity from a luminous clock "need occasion no alarm," according to the November 29 issue of *The Journal of the American Medical Association*. Answering a query as to whether the luminous dial of an alarm clock could be a source of chronic radium poisoning, *The Journal* says:

"No prospect of real damage exists from a single ordinary dial. Commonly these luminous dials represent divers sulfides activated by traces of radioactive substances. The energy output is low. The dial cover, glass or plastic, together with the distance of at least a foot or two, further promotes safety.

"In the early days of the war, when aircraft instrument panels became highly complex with luminous dials, this multiplicity introduced a threat to pilots and led to autoluminescence for only the key instruments, the less important ones being made luminous by adjacent ultraviolet lamps. In plants manufacturing luminous dials, in storerooms for the finished product significant radioactivity may be detected, but in households or about the person, a single or few luminous dials need occasion no alarm."

### WILD RABBITS HELD RESPONSIBLE FOR 90 PER CENT OF TULAREMIA

It is already open season for rabbit-hunters in some states, but "if people would avoid all contact with wild rabbits, 90 per cent of tularemia would be eliminated," Robert P. Little, M.D., Columbus, Ohio, writes in the current issue of *Hygeia*, health magazine of the American Medical Association. If you must go rabbit hunting this fall, Dr. Little suggests that you pick only the liveliest animals. "The disease is fatal to animals," he says, "and one should suspect it if a rabbit or hare seems unusually tame so that it may be caught by hand or runs sluggishly when flushed."

Cases of tularemia, or rabbit fever, have at one time or another been reported from every state but Vermont, Dr. Little observes. In all there have been some 18,000 cases reported in the United States and of these 1,300 or 7.2 per cent were fatal.

The article describes tularemia as "primarily a disease of numerous small wild animals, such as rabbits, hares, field mice, opossums, squirrels, coyotes, skunks and many more. Man acquires the disease either by direct contact with sick animals or through insects, such as deer flies or ticks, which have fed on them and then bitten him or been crushed on his skin.

"The incubation period is generally three to five days,

and the disease begins suddenly with headache, chills and fever. Then follow weakness, loss of weight prostration, backache, joint pains and drenching sweats. The acute phase lasts two or three weeks and the fever falls gradually." The antibiotic, streptomycin, will minimize the suffering and the debilitating fever.

"Fortunately, tularemia is a preventable disease," Dr. Little concludes. "If people would avoid all contact with wild rabbits, 90 per cent of tularemia would be eliminated. The other 10 per cent could be reduced by proper precautions, such as avoidance of ticks and insect bites. Tight clothing discourages the entry of ticks and insect repellents may prevent the bites of flies. Wild game should be thoroughly cooked and water supplies properly purified.

"Persons who skin wild animals should (1) wear rubber gloves, (2) immediately wash blood from the skin with plenty of soap and water and (3) follow this by alcohol or another disinfectant. Laws should be passed prohibiting both the sale of wild rabbits and their use as food."

### JOURNAL DEBUNKS SEVEN DAY "CURE" FOR CHRONIC ALCOHOLISM

"A simple cure for chronic alcoholism, seven day, seven week, or even seven year, does not exist," according to an editorial in the November 1 issue of *The Journal of the American Medical Association*.

"Since the publication of an article, 'Seven Day Cure for Alcoholism,' in *Magazine Digest*," the editorial says, "*The Journal* has been receiving inquiries from both physicians and the public requesting further information and confirmation of the efficacy of the treatment proposed. . . . The treatment described is a withdrawal method, using slowly decreasing doses of alcohol intravenously over a period of six to seven days. The patients treated by the authors were those with acute alcoholic dementia, hallucinosis and delirium tremens. These patients were treated equally as successfully by the intravenous method as others have been who took decreasing doses by mouth along with other adjuvant treatment, but no more so. . . . The authors admit that this method does not produce a permanent cure of chronic alcoholism. The patients may well return to the abuse of alcohol, as they frequently do following other types of withdrawal treatment. The personality factors that cause maladjustment to environment must be determined and controlled. . . . Aside from its usefulness in withdrawal treatment, the technic seems about as illogical as the sugar treatment of diabetes or the morphine treatment of the opium habit."

### EPILEPTIC SEIZURES REDUCED 60 PER CENT BY "MESANTOIN"

The drug known under the trade name of "mesantoin" is proving far more effective than other drugs in reducing grand mal seizures in epileptics, writes Anthony E. Loscalzo, M.D., New York, in the October 25 issue of *The Journal of the American Medical Association*.

Grand mal is a form of epileptic attack in which the sufferer loses consciousness, twitches, and gets blue in the face. For three years Dr. Loscalzo studied 67 cooperative patients afflicted with grand mal who for the first time were treated with mesantoin in combination with phenobarbital. Fifty-five of them had previously been taking diphenylhydantoin sodium, usually combined with phenobarbital. The rest had been taking phenobarbital alone.

Dr. Loscalzo reports that the change in treatment reduced the total number of grand mal attacks experienced by these patients approximately 60 per cent, lessened the severity of their convulsions, and produced fewer toxic reactions. In 22 of the patients the seizures ceased completely shortly after the new regimen was instituted.

**THE JOURNAL**

OF THE

MEDICAL ASSOCIATION OF GEORGIA

478 Peachtree Street, N. E., Atlanta, Ga.

DECEMBER, 1947

**ANNUAL DIRECTORY OF THE  
ASSOCIATION**

In this number of *THE JOURNAL* is published the Annual Directory of the Medical Association of Georgia. In addition, there is also published the Annual Directory of the Woman's Auxiliary to the Medical Association of Georgia.

For the Directory of the Medical Association of Georgia, it must be remembered by all members that their names are published under the heading of their respective county medical societies. Look for yours. If it is not there, the chances are your county secretary failed to report it to the Secretary-Treasurer of the Association. In any event, for the correction of any errors, you should communicate with both the county secretary and the office of the Association.

For the Directory of the Woman's Auxiliary to the Medical Association of Georgia, the list of names as submitted by them is published. Sometimes they give some of us new names. For example, Dr. John Doe may become under his new name Dr. "Skinny" Doe, and Dr. John Hancock may to them be Dr. "Tubby" Hancock. Dr. William Jones most certainly will be called Dr. "Bill" Jones, or perhaps Dr. "Happy" Jones. In past years such errors on the part of our beloved wives worried the editor to some extent, his efforts being bent toward accuracy, but now it is believed there are more important things before all of us, and that we should never raise a fuss with our wives.

What makes the editor happy each year, as he views the directories of both the Asso-

ciation and its Auxiliary, is the fact the list of names for each roster has grown in numbers. Surely with such increased interest on the part of all concerned, neither the Association nor its Auxiliary can fail in the combined effort to make the State of Georgia a healthier area in which our people may live.

**LIVES ARE MORE IMPORTANT THAN  
DOLLARS**

Roger Babson, well known economist, newspaper writer and philosopher, has the following to say about "Lives Are More Important Than Dollars." Indeed, there are more important things in our lives than profits, wages, bushels and tons, but many times it takes tragic circumstances to make one realize the truth so well expressed by Mr. Babson:

I have had several good grandchildren: but only two have been boys.

One of these is artistic and has no interest in business: he was in the service and returned from Europe safely. The other, Michael, had been much interested in business, one with whom I had discussed my affairs although only 13 years old. He had been working at a Sunapee, N. H., hotel all summer; last week he took a speedboat party out on Lake Sunapee.

Somehow one of the girls fell overboard. Michael stopped the boat and dived in after her, knowing that she could not swim. He succeeded in dragging her to the side of the boat so that the others could pull her in. This they did; but Michael was exhausted and sank to the bottom. Divers finally recovered his body. It was a splendid way to go, and I am much prouder of him than if he had lived and made a million dollars.

*Remember Human Values*

But why do I tell my personal troubles to you readers? There are two reasons: First, because it has brought trouble home to me and makes me appreciate human values. It is the blow which I personally have had since my sister was drowned here at Gloucester many years ago. I lost no near kin either in World War I or II. War fatalities were only cold statistics to me.

During my career, I have studied only profits, wages, bushels and tons. Friends, I fear there are too many other American businessmen who are like me, forgetting the *human values*. This may explain why we do not understand the millions



of wage workers whose only assets are their boys and girls. Today I am trying to think of them and also of the millions of starving families in Europe who love their children just as much as I loved Michael.

My second reason for mentioning Michael is to apologize for my habit of discussing World War III as if the *money cost* and *property damage* are of primary consideration. Heretofore, I have figured *which is the cheaper in dollars*—to help out Europe *now* or to fight *now*. I have not considered the millions of good boys who would be killed in another war. Again I fear there are too many other businessmen—and perhaps labor leaders too—who are as ruthless as I have been in thinking too much of the dollars involved and not enough of the human lives. Anyhow, I am a changed man today.

Just one more thought: Of course, if World War III comes, we will be told that it is a fight for “*democracy against dictatorship*.” But since losing Michael, I have been wondering if there is not a more underlying reason for today’s world troubles. May not property, stocks, profits and wages be one reason for the struggle between America and Europe? If we could be willing to sacrifice some of our wealth—in a *big way*—perhaps Russia would have to call off her gangster methods.

#### *Which Shall It Be?*

This does not mean that we would pay tribute, as a cowardly nation, to Europe, but it would be licking these dictators by giving up our luxuries for awhile in order to raise the standard-of-living abroad. We, however, cannot accomplish such without making real sacrifices. It might temporarily require farmers to forego profits, investors to forego dividends and all of us to work ten hours a day for reasonable wages. The question is whether we will do this voluntarily by the use of commodities, or will we still insist on fighting Russia with human lives.

In either case it would mean real sacrifice and perhaps a surface setback for America; as it should be done without increasing the federal or other debts. Before losing my grandson, I was all for fighting now and “cleaning Russia up;” but today I think there may be a better way. Besides, do wars ever settle great questions when ideologies are involved?

#### 42,000 MORE NURSES NEEDED TO MEET CURRENT DEMAND—HYGEIA

Almost 42,000 more nurses are needed to meet the current nursing shortage and probably at least 60,000 will be needed to meet increasing demands, according to an editorial by Morris Fishbein, M.D., in the current issue of *Hygeia*, health magazine of the American Medical Association. As Dr. Fishbein sees it, the training of more practical nurses to take over a large part of

ordinary bedside nursing may be the answer to the major portion of the problem.

Dr. Fishbein writes:

A survey made by the American Hospital Association indicates that the number of nurses necessary to supply the needs of the hospitals and the people of the United States is 360,000. Over 90,000 nurses are needed for private duty nursing in which one nurse takes care of one patient. At present almost 42,000 nurses are needed to meet the shortage that prevails; probably at least 60,000 are needed promptly to meet increasing demands that will come with new hospitals and new services for nurses.

Various reasons have been alleged to be responsible for the existing shortage. Before the war nurses worked in many instances a 12 hour day for six days a week. Now throughout much of the United States they work eight hours a day five days a week. This alone would mean almost twice as many nurses to meet the same needs.

In 1940 there were 1,226,000 hospital beds. By 1945 the number had increased to 1,738,000. New veterans’ hospitals are in process of construction; under the Hill-Burton Act there will be many more hospital beds provided for the civilian population. In 1940 about 10 million patients entered the hospitals of the United States. In 1945, 16 million patients entered the hospitals. No doubt much of the increased demand is associated with the rapid spread of hospitalization insurance.

During 1945 a careful survey was made of medical and public opinion regarding the profession of nursing. The general belief seemed to prevail that the nursing profession is desirable but that it offers too little reward to those who practice it and too high a cost to those who need it. This is like the situation in which an irresistible force meets an immovable object. How to reconcile the two aspects of this situation is an exceedingly difficult problem.

The profession of nursing today includes far more than just taking care of the sick. Nurses have positions involving administrative responsibilities. They are concerned with education. The career of a nurse is considered suitable preparation for specialized training in physical therapy, public health and such fields as psychiatric, orthopedic, surgical and obstetric nursing. The demand for properly qualified nurses is so great that a girl who completes her education in nursing need never be without work once she has secured a license to practice.

The suggestion has been made that the shortage be overcome by the training of male nurses, but the point of view is well established that nursing is primarily a woman’s profession. Competition from men will hardly be a factor for a good many years.

The minimum educational requirements of

most schools of nursing is graduation from high school. Some nursing schools require one or more years of college work. In general students are admitted only when they have been in the upper third of the class. The preferred age is 20 to 25 years but 18 years of age is considered acceptable in a good many schools. Thirty-five is considered the upper limit. Some schools of nursing offer a combination four or five year program which includes a diploma for nursing and a college degree. These schools will admit high school graduates at 17 years of age.

The great number of nurses who get married soon after entering the profession is an indication that this is one profession which is excellent preparation for marriage. The girl who is trained as a nurse has several advantages over girls in other occupations when it comes to contact with the susceptible male.

Much discussion has been going on in medical and nursing circles as to the desirability of educating more practical nurses. The excellent work the nurses' aides did during the war has emphasized this possibility. The criticism is made that professional nurses have raised their educational standards and are getting far away from bedside nursing. In Michigan the State Board of Education in cooperation with medical and nursing organizations has established six practical nurses' training centers to educate such nurses. For a number of years Detroit has had a similar project. These practical nurses are recruited from the senior students in high schools. The teachers are registered nurses on high school faculties. Practical nursing will be a part of the vocational educational system. Standards for practical nursing systems will be established. The leaders who are developing this plan assert that nurses of this type will be able to do from 80 to 90 per cent of the ordinary bedside nursing in hospitals. This may be the answer to the major portion of the problem.

#### SEVEN ORGANIZATIONS URGE NATIONAL RABIES CONTROL PROGRAM

Rabies in the United States is serious enough to justify a rabies control program on a national basis, according to representatives of seven organizations whose recommendations appear in *The Journal of the American Medical Association* of November 22.

The organizations are the American Public Health Association, the American Medical Association, the U. S. Public Health Service, the Bureau of Animal Industry of the U. S. Department of Agriculture, the U. S. Livestock Sanitary Association, the American Animal Hospital Association and the American Veterinary Medical Association. They believe that:

—The federal government should participate in means for the control of rabies through cooperation with the states, contributing funds and personnel.

—Rabies in man is generally reportable to local and state health authorities, but it should also be required that all cases of animal rabies be reported by states to a control federal agency for analysis and distribution.

—Prime consideration must be given to adequate

facilities for the diagnosis of rabies, mass immunization of susceptible animals, particularly dogs, and control of animals capable of transmitting the disease.

#### ORGANISM CAUSING DIPHTHERIA RESISTS PENICILLIN AND STREPTOMYCIN

In the November 22 issue of *The Journal of the American Medical Association* three Army doctors report the case of a diphtheria patient who was treated with large doses of penicillin and streptomycin "without apparent effect on the course of the disease or on the persistently positive throat cultures." This is significant, according to the writers, because other medical reports have indicated that the organism causing diphtheria is sensitive to both antibiotics.

With an apparent increased incidence of diphtheria in many sections of the country, in cases of severe inflammation of the throat "one should not be lured into a false sense of security" by such reports, the doctors warn. They are Lieutenant Colonel Weldon J. Walker, Captain Franklin C. Massey and Captain F. Keshvar Mostofi, all with the Medical Corps of the United States Army and all from the Medical and Laboratory Services of the Madigan General Hospital, Tacoma, Washington.

In the case they mention the patient's throat condition was not accurately diagnosed until he grew worse after having been given large doses of penicillin. Four days after the onset of the illness throat cultures were made, and they proved positive for the bacillus of diphtheria. The patient was given diphtheria antitoxin and the penicillin dosage was continued. The cultures remained positive, however. Finally, when the patient was near death, streptomycin was given instead of penicillin. "There was no clinical or bacteriologic response to the administration of either penicillin or streptomycin," the doctors write.

#### DEER-HUNTERS WARNED TO TAKE IT EASY

Now that the hunting season is on, Clay Schoenfeld warns in the current issue of *Hygeia*, health magazine of the American Medical Association, take it easy when you go deer hunting. You're just about as likely to die of a heart attack as of a stray bullet.

Almost 40 per cent of the deer-hunting deaths in the United States are due to heart attacks, according to the writer, a Madison, Wisconsin resident who speaks from personal experience in the north woods as well as from data compiled by various state conservation departments. Out of 18 hunter deaths in the state of Michigan during the 1946 deer season, he says, "10 were due to gunshot and eight to heart disease. In Wisconsin the heart cases actually outnumbered the bullet toll eight to five."

The trouble is that "the average man in the woods operates unconsciously at a pace and under a strain which he wouldn't think of putting up with back home," Mr. Schoenfeld observes. "The fellow who can't walk a block to catch the bus suddenly goes tramping through underbrush on a 10-mile deer drive. The man who never carries out his furnace ashes decides to drag a 200 pound buck a half-mile back to the road. Or the chap who sits calmly for 51 weeks at a desk stands by the hour with pounding pulse at a deer crossing. . . . Most of the 1946 heart attack victims were hunters in the middle age group, men no longer in their physical prime who got too excited or strained themselves in the woods. . . . Weak hearts aren't limited to men past 40, however. Several diseases of childhood lead to heart weaknesses among younger people. Rheumatic fever is the worst offender."

The Medical Association of Georgia will hold its next annual session in Atlanta, April 27-30, 1948.



## GEORGIA DEPARTMENT OF PUBLIC HEALTH

## CARBON MONOXIDE

Three deaths from carbon monoxide poisoning have already been reported in Georgia during the first nine months of this year. There were six deaths from this cause in 1946. Of these nine deaths, four followed exposure to internal combustion motor exhaust gases and the remaining five were from other exposures; 598 deaths were reported in the entire United States in 1945, about one-third following exposure to motor vehicles.

All of these deaths could easily have been prevented. However, there are many reports of public failure to provide the well known control devices. Heaters which burn gas, oil, or other fuel are installed without adequate vents to carry off the products of combustion. Vent pipes originally correctly installed are allowed to rust out. People still drive in closed automobiles in cold weather without ventilation. Automobile motors are still left running in public and private garages. Poisoning is apt to confront men in any walk of life. The hazards are particularly prevalent during the colder months of the year. For all these reasons, it seems timely to review the well known facts about carbon monoxide poisoning.

Carbon monoxide is a colorless, tasteless, odorless, non-irritating gas which is the product of incomplete combustion of carbon. Its density as compared to air is 0.967. It burns with a blue flame, the product of complete combustion being carbon dioxide. Manufactured illuminating gas generally contains from 20 to 30 per cent carbon monoxide. Natural gas contains no carbon monoxide but, of course, incomplete combustion of natural gas will produce it. It is impossible to list all the sources of carbon monoxide in our environment. Common sources include: furnaces, stoves, charcoal ovens, kilns, coal mines, garages, internal combustion motors, etc. Wherever power or heat is generated by a combustion process of carbonaceous material, the carbon monoxide hazard may exist.

Carbon monoxide in inspired air is absorbed by the hemoglobin of the blood. Both the absorption and elimination follow the law of natural diffusion of gases. When the tension of gas is greater in the air than in the blood the flow is toward the blood until it is saturated to the extent of the amount of gas in the air. Thus the concentration of the gas in the air, the length of exposure and the rate and depth of respirations are some of the factors. At first the rate of absorption is rapid, but slows down as the degree of saturation of the blood approaches equilibrium with the concentration in the air. Approximately half of the possible blood saturation for any given air concentration is reached in the first hour of

exposure, half of the remainder in the second hour, etc. When low concentrations of the gas in the air are inhaled, equilibrium may be reached, after which no further absorption will take place, no matter how long the contaminated air is inhaled, unless the concentration of gas in the air is increased. Inhalations of high concentrations saturate the blood very rapidly and death may occur in just a few breaths.

On the other hand, if the victim is removed to fresh air in time, elimination begins immediately, through a reversal of the process. The rate depends upon rate and depth of respiration, and methods of treatment. If pure oxygen is inhaled the rate of elimination is greatly increased. Elimination is practically complete within eight to ten hours in the air.

The affinity of hemoglobin for carbon monoxide is 250 to 300 times as great as for oxygen. The carbon monoxide hemoglobin union forms a definite chemical compound with a characteristic cherry red color, which is imparted to the lips, skin, and ears of the victim. As the hemoglobin absorbs carbon monoxide, the oxygen-carrying capacity of the blood is reduced in proportion. All the harmful effects of carbon monoxide poisoning are due to oxygen starvation of the tissues. The brain suffers first because of its inability to withstand oxygen lack as well as other tissues. When death occurs it is due to paralysis of the respiratory center in the brain from anoxia.

The maximum allowable concentration of carbon monoxide in the air accepted as safe to breathe is 100 parts per million. As little as 1,000 parts per million in the air may produce a fatal concentration in the blood within three hours.

*Symptoms*

The symptoms of carbon monoxide poisoning vary in accordance with the extent of blood saturation, or in other words they depend upon the amount of blood that is free to carry oxygen. There are no symptoms if less than 20 per cent of the blood hemoglobin is combined with carbon monoxide. With 20 to 35 per cent blood saturation there is increasing headache, dizziness, sleepiness, nausea, muscular weakness, incoordination, lengthened reaction time, impaired judgment. As saturation approaches 50 per cent, these symptoms become more pronounced. Pulse and respiration are increased, and the patient may collapse. Above 50 per cent saturation, unconsciousness takes place and death may occur. Death is immediate at 80 per cent saturation. When high concentrations of gas are inhaled the victim may not experience any premonitory symptoms, but suddenly collapses.

Unfortunately the symptoms of headache and mental dullness experienced with low concen-

trations are frequently disregarded. Many a workman has been accused of inefficiency or has been the victim or the cause of a serious accident because he was in the primary stage of carbon monoxide poisoning.

### Prognosis

If the patient is not dead when found, resuscitation measures are usually successful. Practically all will recover within a few hours to a few days. All the damage is done during the period of tissue anoxia. If the anoxia has been both prolonged and severe, there is a slight possibility of degeneration of brain cells with permanent after effects, such as loss of memory, paralysis, amnesia or other mental disorders. The number of cases with permanent after effects is very low in comparison to the number that is severely asphyxiated. The exposure severe enough to produce brain degeneration closely approximates the fatal exposure.

There probably is no such thing as chronic poisoning from inhalation of low concentrations of carbon monoxide gas over long periods of time. The gas is non-toxic, the only damage it causes is due to anoxia, and low concentrations do not cause anoxia. There appears to be no logical reason for attributing other disorders of bodily organs or functions to carbon monoxide poisoning. The brain suffers first from oxygen lack due to the large amount of oxygen which it consumes.

### Prevention

The public should be educated as to the hazards and control procedures. Adequate ventilation should be provided for all rooms and enclosed spaces and carbon monoxide should be removed at the point of origin by exhaust ventilation. All heating or power devices depending upon combustion of carbonaceous fuel should be adequately vented. Garage mechanics, drivers of automobiles and operators of internal combustion motors should be warned against driving in closed vehicles, and running the motor in enclosed spaces.

### Treatment

Time is of greatest importance. It is essential to remove the victim to the fresh air at once, and immediately institute treatment at the site. Brain damage makes it impossible to resuscitate the patient after breathing has stopped for ten minutes or longer. Artificial respiration by the Schafer Prone Pressure Method should be instituted and continued for at least two hours or until normal breathing occurs. When available, oxygen or a mixture of 93 per cent oxygen and 7 per cent carbon dioxide should be administered in conjunction with the artificial respiration as it increases the rate of elimination. The patient should be kept warm. He should not be allowed to go back into the contaminated air again. The use of methylene blue, venesection or blood transfusion is not recommended since these forms of

treatment may be harmful.

There are various tests for determining the concentration of carbon monoxide in the air and in the blood. The Georgia Department of Public Health maintains instruments designed for rapid application of these tests and is prepared to make investigations of industrial environments where the hazard may be suspected.

L. M. PETRIE, M.D., *Director*  
Division of Industrial Hygiene,  
Georgia Department of Public Health

### REFERENCES

1. Johnstone: Occupational Diseases; 1941, p. 175-198.
2. Wampler: Principles and Practice of Industrial Medicine; 1943, p. 269-277.

### INFANTS OF MORPHINE-ADDICTED MOTHERS BORN WITH SAME ADDICTION

Infants born to mothers who are morphine addicts show all the symptoms of a morphine addict whose source of supply has suddenly been cut off, and if not properly treated may die of convulsions during the first week of life, according to an article in the November 8 issue of *The Journal of the American Medical Association*. The author is Meyer A. Perlstein, M.D., Chicago.

"The infants are born at full term and are apparently normal," Dr. Perlstein writes, "but their addiction matches that of their mothers. Separation from the maternal circulation shuts off the supply of drug to the newborn, and withdrawal symptoms ensue within three days. . . .

"In the past, some investigators erroneously assumed that morphine was excreted in human milk; hence, breast-feeding by the addicted mother was a method employed in the treatment of congenital morphinism. It is a fact, though, that morphine is not thus excreted, and the emphasis in treatment is now directed toward sedation."

In the case which Dr. Perlstein mentions, dosage with phenobarbital brought about prompt recovery, the drug being continued for eight weeks before being tapered off and stopped.

### SURGEON WARNS PERSONS WHO POSSESS TOOTH-PICK-CHEWING HABIT

A patient who had to be operated on because he had apparently swallowed a toothpick along with his club sandwich led Thomas J. Snodgrass, M.D., from the Pember Nuzum Clinic of Janesville, Wisconsin, to comb medical literature for similar case histories. In the current issue of *Archives of Surgery*, published by the American Medical Association, he comes up with the cheering report that toothpicks in the intestinal tract seem to be the least of a surgeon's worries: his total collection numbers no more than 20 cases.

Dr. Snodgrass does sound a note of warning for those who wear artificial dentures, however; they make up a large proportion of the toothpick-swallowers who must undergo surgery. In most cases the dentures seem to have allowed the patients to ingest the toothpick without feeling it in their mouths. His article also points out previously unrecognized dangers lurking in the martini, the Manhattan and the old fashioned, as well as in the canapé and club sandwich.

Thirteen of the 20 toothpick cases were diagnosed as acute appendicitis, and in 10 cases an abscess was present. In 13 cases the source of the foreign body was unknown. The two most extraordinary cases were probably those of a little girl who somehow managed to swallow a toothpick while drinking a glass of water and of a man who regularly fell asleep after dinner with a toothpick in his mouth, relying on his wife to remove it. Another man identified his particular splinter of wood as being part of his spaghetti seasoning.



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## MEDICAL ASSOCIATION OF GEORGIA DIRECTORY

On the following pages of this Journal will be found the directory of the Medical Association of Georgia for 1947.

Much effort has been expended in compiling this directory, for the reason the Association is in a post-war reorganization period. During the recent war more than 600 of our members left their homes to serve with the armed forces. Most of them have returned home, but some have found new locations. Members' names must be reported to the Association's secretary by their respective county medical societies. If for any reason you do not find your name included in the directory, you should consult the officers of your county medical society. If your name was listed incorrectly, please notify this Journal.

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 Moore, Ed L., Statesboro  
 Nevil, J. L., Metter  
 Olliff, H. H., Register  
 Simmons, W. E., Metter  
 Stapleton, C. E., Statesboro  
 Stewart, Jas. A., Portal  
 Waters, Aubrey Jackson, Statesboro  
 Watkins, E. C., Brooklet  
 Whiteside, J. H., Statesboro

**BURKE COUNTY****Officers**

President.....McCarver, W. C.  
 Vice-President.....Lowe, W. R.  
 Secretary-Treasurer.....Green, C. G.  
 Delegate.....Butterfield, D. L.  
 Alternate Delegate.....Green, C. G.

**Members**

Barger, E. A., Waynesboro  
 Bent, H. F., Midville  
 Butterfield, D. L., Waynesboro  
 Byne, J. M., Jr., Waynesboro

Green, C. G., Waynesboro  
 Hillis, W. W., Sardis  
 Lowe, W. R., Midville  
 Lundquist, W. D., Waynesboro  
 McCarver, W. C., Vidette

**CARROLL-DOUGLAS-HARALSON COUNTIES****Officers**

President.....Powell, B. C.  
 Vice-President.....Allen, C. H.  
 Secretary-Treas.....Downey, Wm. P.  
 Delegate.....King, O. D.  
 Alternate Del.....Worthy, W. Steve  
 Censors: King, O. D.; Hamilton, R. E.

**Members**

Aderholt, W. A., Carrollton  
 Allen, C. H., Bremen  
 Bagley, D. A., Austell  
 Barker, H. L., Carrollton  
 Berry, Robert L., Villa Rica  
 Bray, Adolphus, Buchanan  
 Brock, W. B., Tallapoosa (Hon.)  
 Bussey, J. G., Austell  
 Denney, Roy Lumpkin, Carrollton  
 Downey, Wm. P., Tallapoosa  
 Eaves, B. F., Draketown (Hon.)  
 Hamilton, R. E., Douglasville  
 Hogue, W. L., Villa Rica  
 Holtz, Louis, Carrollton  
 Hutcheson, E. B., Buchanan (Hon.)  
 King, O. D., Bremen  
 Morgan, F. W., Douglasville  
 Nutt, J. J., Bowdon  
 Parham, J. B., Tallapoosa  
 Powell, B. C., Villa Rica  
 Powell, John E., Villa Rica  
 Powell, John E., Jr., Villa Rica  
 Pritchett, J. H., Jr., Bremen  
 Reese, D. S., Carrollton  
 Roberts, L. J., Carrollton  
 Roberts, O. W., Carrollton  
 Scales, S. F., Carrollton  
 Smith, W. P., Bowdon  
 Spruell, T. M., Temple (Hon.)  
 Taylor, T. B., Douglasville  
 Thomasson, W. E., Carrollton  
 Vansant, C. V., Douglasville  
 Watts, J. W., Bowdon  
 Wilson, L. E., Bowdon  
 Worthy, W. Steve, Carrollton

**GEORGIA MEDICAL SOCIETY (Chatham County)****Officers**

President.....Long, W. V.  
 Vice-President.....Porter, J. E.  
 Secretary-Treas.....Johnson, G. H., Jr.  
 Delegate.....Elliott, J. L.  
 Delegate.....Touchton, G. L.  
 Alternate Delegate.....McGee, H. H.  
 Alternate Delegate.....King, Ruskin

**Members**

Baker, J. O., 126 E. Oglethorpe Ave., Savannah  
 Bedingfield, W. O., 612 Drayton St., Savannah  
 Bowden, Ralph H., 24 W. Gaston St., Savannah  
 Broderick, J. R., 415 Abercorn St., Savannah  
 Brown, C. T., Guyton  
 Brown, F. B., 612 Drayton St., Savannah  
 Brown, Walter E., 14 W. Hull St., Savannah  
 Center, Abraham H., 17-A W. Gordon St., Savannah

- Charlton, T. J., 220 E. Oglethorpe Ave., Savannah  
 Chisholm, J. F., 512 Abercorn St., Savannah  
 Cole, W. A., 32 E. Taylor St., Savannah  
 Compton, H. T., 17 E. Jones St., Savannah  
 Coward, Allen W., 17 E. Jones St., Savannah  
 Craig, James B., 19½ W. Gordon St., Savannah  
 Crawford, W. B., 14 E. Taylor St., Savannah  
 Crawford, W. B., Jr., 14 E. Taylor St., Savannah  
 Dancy, W. R., 102 W. Jones St., Savannah  
 Daniel, J. W., 5 E. Jones St., Savannah  
 Daniel, J. W., Jr., 5 E. Jones St., Savannah  
 Davis, Claude L., Hinesville  
 deCaradeuc, St. J. R., DeRenne Apts., Savannah  
 Demmond, E. C., DeRenne Apts., Savannah  
 Drane, Robert, DeRenne Apts., Savannah  
 Dunn, L. B., 114 E. Gaston St., Savannah  
 Egan, M. J., 210 E. Liberty St., Savannah  
 Elliott, J. L., 212 E. Huntingdon St., Savannah  
 Epting, M. J., 12 W. Jones St., Savannah  
 Exley, H. T., 116 E. Jones St., Savannah (Deceased)  
 Faggart, G. H., 18 W. Oglethorpe Ave., Savannah  
 Fillingim, D. B., 118 E. Jones St., Savannah  
 Frech, Henry C., Jr., 423 Bull St., Savannah  
 Freedman, L. M., 101½ E. Gordon St., Savannah  
 Fulmer, Wm. Henry, 19 E. 34th St., Savannah  
 Gleaton, E. N., 2 E. Jones St., Savannah  
 Graham, R. E., 212 E. Gaston St., Savannah  
 Ham, Oscar Emerson, 12 W. Jones St., Savannah  
 Holton, C. F., DeRenne Apts., Savannah  
 Hopkins, Anne, 22 E. Jones St., Savannah  
 Howard, Lee, DeRenne Apts., Savannah  
 Isenman, E., 103 E. Jones St., Savannah  
 Johnson, G. H., Jr., 116 E. Oglethorpe Ave., Savannah  
 Jones, Jabez, 11 W. Gordon St., Savannah  
 Kandal, H. M., 432 Abercorn St., Savannah  
 Kanter, W. W., 345 Bull St., Savannah  
 Kelley, Albert J., 4 E. Taylor St., Savannah  
 King, Ruskin, 10 W. Taylor St., Savannah  
 Lang, G. H., 202 E. Liberty St., Savannah  
 Lange, S. A., 12 E. Taylor St., Savannah  
 Lawless, Thomas F., 204 E. Liberty St., Savannah  
 Lee, Lawrence, DeRenne Apts., Savannah  
 Levington, H. L., 209 E. Gaston St., Savannah  
 Long, W. V., DeSoto Hotel, Savannah  
 Lott, Oscar H., 111 E. Jones St., Savannah  
 Lynn, S. C., 124 E. Jones St., Savannah  
 Maner, E. N., 4 W. Liberty St., Savannah  
 Martin, R. V., 10 W. Jones St., Savannah  
 Massoud, M. A., Pineora  
 Mazo, Milton, 8 E. Taylor St., Savannah  
 McGee, H. H., 7 W. Gordon St., Savannah  
 Metts, Jas. C., 427 Bull St., Savannah  
 Morrison, Howard J., 444 Drayton St., Savannah  
 Neville, R. L., 11 W. Gordon St., Savannah  
 Norton, W. A., 105 E. Oglethorpe Ave., Savannah  
 Oliver, R. L., DeRenne Apts., Savannah  
 Olmstead, G. T., 20 E. Taylor St., Savannah  
 O'Neill, J. C., 202 E. Liberty St., Savannah  
 Osborne, E. S., 19 E. Jones St., Savannah  
 Osteen, W. L., 610 Anderson Ave., Savannah  
 Pacifici, Joseph, 415 Abercorn St., Savannah  
 Peterson, T. A., 116 E. Huntington St., Savannah  
 Pinholster, J. H., 4 W. Liberty St., Savannah  
 Porter, J. E., 106 E. Jones St., Savannah  
 Portman, H. J., 9 E. Gordon St., Savannah  
 Powers, Leander K., 409 Drayton St., Savannah  
 Prince, Chas. L., 15 E. Gordon St., Savannah  
 Quattlebaum, J. K., 24 W. Gaston St., Savannah  
 Rabhan, L. J., 314 E. Gaston St., Savannah  
 Redmond, C. G., 701 Whitaker St., Savannah  
 Redmond, C. R. A., 530 E. 49th St., Savannah  
 Righton, H. Y., 101 E. Waldburg St., Savannah  
 Rosen, E. F., 5 E. Gordon St., Savannah  
 Rosen, Samuel F., 4 E. Jones St., Savannah  
 Rubin, Jacob, 350 Bull St., Savannah  
 Sax, Charles E., 19 W. Liberty St., Savannah  
 Schneider, M. M., 12½ W. Taylor St., Savannah  
 Sharpley, Helen, 109 E. Jones St., Savannah  
 Sharpley, H. F., Jr., DeRenne Apts., Savannah  
 Sharpley, John G., DeRenne Apts., Savannah  
 Shaw, L. W., 124 E. Oglethorpe Ave., Savannah  
 Shearouse, J. Wm., 14 E. Taylor St., Savannah  
 Smith, H. M., 9 W. Gordon St., Savannah  
 Smith, J. Gregg, 22 W. Gordon St., Savannah  
 Smith, P. H., 3 E. Gordon St., Savannah  
 Taylor, Lloyd B., 601 Whitaker St., Savannah  
 Touchton, G. L., 114 E. Jones St., Savannah  
 Train, J. K., 1107 Bull St., Savannah  
 Train, J. K., Jr., 1107 Bull St., Savannah  
 Upson, E. T., 201 E. Hall St., Savannah  
 Usher, Charles, 6 E. Liberty St., Savannah  
 Victor, Jules, Jr., 126 E. Taylor St., Savannah  
 Waring, A. J., DeRenne Apts., Savannah  
 Westerfield, C. W., 2044 Forrest St., Savannah  
 Whelan, E. J., 14 W. Jones St., Savannah  
 Williams, A. F., 127 E. Gordon St., Savannah  
 Williams, L. W., 105 E. Jones St., Savannah  
 Wilson, W. D., 315 Abercorn St., Savannah

## CHATTOOGA COUNTY

## Officers

President.....Little, G. H.  
 Vice-President.....Gist, Wm. T.  
 Secretary-Treasurer.....Hair, W. B.  
 Delegate.....Hyden, W. U.  
 Alternate Delegate.....Little, R. N.

## Members

Gist, Wm. T., Summerville  
 Hair, W. B., Summerville  
 Hyden, W. U., Trion  
 Little, G. H., Trion  
 Little, R. N., Summerville

CHEROKEE-PICKENS  
COUNTIES

## Officers

President.....Andrews, Chas. R., Jr.  
 Vice-President.....Hendrix, Arthur M.  
 Sec.-Treas.....Jones, Robert T., III  
 Delegate.....Roper, C. J.  
 Alt. Delegate.....Hendrix, Arthur M.  
 Censors: Moore, R. M.; Vansant, T. J.; and Roper, C. J.

## Members

Andrews, Chas. R., Jr., Canton  
 Brooke, Geo. C., Canton  
 Coker, Grady N., Canton  
 Hendrix, Arthur M., Canton  
 Hendrix, M. Gordon, Ball Ground  
 Jones, Robert T., III, Canton  
 Looper, Ben K., Canton  
 Moore, R. M., Waleska (Hon.)  
 Pettit, J. T., Canton  
 Roper, C. J., Jasper  
 Roper, E. A., Jasper  
 Scofield, I. F., Tate  
 Vansant, T. J., Woodstock



**CLARKE COUNTY****Officers**

President.....Talmadge, Sam M.  
 Vice-President.....Thompson, D. N.  
 Secretary-Treas.....Barner, John L.  
 Delegate.....Talmadge, Sam M.  
 Alt. Delegate.....Green, Jas. A., Jr.

**Members**

Barner, John L., Athens  
 Bond, D. T., Danielsville  
 Brown, W. W., Athens  
 Bryant, C. H., Comer  
 Byrd, H. G., Athens  
 Cabaniss, W. H., Athens  
 Dover, Tom A., Athens  
 Florence, Loree, Athens  
 Gallis, Anthony H., Athens  
 Gerdine, Linton, Athens  
 Goldsmith, Lauren H., Athens  
 Green, Jas. A., Jr., Athens  
 Harris, H. B., Athens  
 Harrison, W. B., Athens  
 Holliday, Henry C., Athens  
 Hubert, M. A., Athens  
 Hunnicutt, J. A., Athens  
 Moss, W. L., Athens  
 Mullins, DeWitt F., Jr., Athens  
 Neighbors, J. B., Jr., Athens  
 Patton, Lewis S., Athens  
 Simpson, John A., Athens  
 Talmadge, Harry, Athens  
 Talmadge, Sam M., Athens  
 Veale, Emory O., Arnoldsville  
 Wheelchel, G. O., Athens  
 Whitley, L. L., Athens

**CLAYTON-FAYETTE  
COUNTIES****Officers**

President.....Wallis, J. R.  
 Vice-President.....Robak, J. L.  
 Secretary-Treasurer.....Busey, T. J.  
 Delegate.....Coleman, Y. R.

**Members**

Busey, T. J., Fayetteville  
 Coleman, Y. R., Jonesboro  
 Robak, J. L., Jonesboro  
 Wallis, J. R., Lovejoy

**COBB COUNTY****Officers**

President.....Garrett, L. G., Jr.  
 Vice-President.....Crawley, Walter G.  
 Secretary-Treas.....Colquitt, Alfred, Jr.  
 Delegate.....Hagood, M. M.  
 Alternate Delegate.....Mitchell, W. C.  
 Censors: Fowler, A. H.; McCall, M. N., Jr., and Hagood, G. F.

**Members**

Banister, C. D., Marietta  
 Benson, Earl B., Marietta  
 Benson, W. H., Marietta  
 Burleigh, Bruce D., Marietta  
 Clark, F. B., Austell  
 Colquitt, Alfred, Jr., Marietta  
 Colquitt, Hugh S., Smyrna  
 Crawley, Walter G., Marietta  
 Davis, E. S., Acworth  
 Ellis, J. W., Kennesaw  
 Fowler, A. H., Marietta  
 Fowler, R. W., Marietta  
 Garrett, L. G., Jr., Austell  
 Hagood, G. F., Marietta  
 Hagood, M. M., Marietta  
 Lester, J. E., Marietta  
 Lindley, F. P., Powder Springs  
 McCall, M. N., Jr., Acworth  
 Mitchell, W. C., Smyrna  
 Mussara, E. A., Marietta

Perkinson, W. H., Marietta  
 Teem, Martin Van B., Marietta  
 Welch, L. L., Marietta

**COFFEE COUNTY****Officers**

President.....Ricketson, George M.  
 Vice-President.....Harper, Sage  
 Secretary-Treasurer.....Morris, J. E.  
 Delegate.....Jardine, Dan A.  
 Alternate Delegate.....Harper, Sage  
 Censor: Clark, T. H.

**Members**

Clark, T. H., Douglas  
 Fussell, J. K., Douglas  
 Goodwin, H. J., Douglas  
 Harper, Sage, Douglas  
 Jardine, Dan A., Douglas  
 Johnson, R. L., Douglas  
 Morris, J. E., Douglas  
 Quillian, B. O., Douglas  
 Ricketson, George M., Douglas  
 Shellhouse, L. H., Willacoochee  
 Wallace, J. W., Douglas

**COLQUITT COUNTY****Officers**

President.....Cumbie, William G.  
 Vice-President.....McCoy, John F.  
 Secretary-Treas.....Conger, Preston D.  
 Delegate.....Brannen, C. C.  
 Alternate Delegate.....Woodall, J. B.  
 Censors: Woodall, J. B.; Gay, Francis M.; and Joiner, R. M.

**Members**

Brannen, C. C., Moultrie  
 Brannen, Cecil N., Moultrie  
 Conger, Preston D., Moultrie  
 Cumbie, Wm. G., Moultrie  
 Funderburk, A. G., Moultrie  
 Gay, Francis M., Moultrie  
 Joiner, R. M., Moultrie  
 Lanier, J. E., Moultrie  
 Lawson, E. L., Moultrie  
 McCoy, John F., Moultrie  
 McGinty, W. R., Moultrie  
 Paulk, J. R., Moultrie  
 Slocumb, C. B., Doerun  
 Stegall, Robert E., Moultrie  
 Ward, James P., Moultrie  
 Withers, Samuel M., Jr., Moultrie  
 Woodall, J. B., Moultrie

**COWETA COUNTY****Officers**

President.....Tanner, W. H.  
 Secretary-Treasurer.....Cochran, M. F.  
 Delegate.....Cochran, M. F.  
 Alternate Delegate.....Hammond, G. W.

**Members**

Arnold, J. H., Newnan  
 Barksdale, C. R., Grantville  
 Cochran, M. F., Newnan  
 Elliott, C. C., Sargent  
 Farmer, Chas. W., Jr., Newnan  
 Glover, H. C., Jr., Newnan  
 Hammond, G. W., Newnan  
 Jackson, Bruce, Route 1, Newnan  
 Kinnard, George F., Newnan  
 McDonald, R. H., Newnan  
 Parks, Joseph W., Jr., Newnan  
 Peniston, Joe B., Newnan  
 St. John, Jas. O., Newnan  
 Tanner, W. H., Route 2, Newnan  
 Tribble, J. M., Senoia  
 Woodroof, Wm. L., Newnan

**CRISP COUNTY****Officers**

President.....McArthur, Chas. T.  
 Secretary-Treas.....Gower, Orien T., Jr.

Delegate.....Williams, P. L.

**Members**

Adams, Charles, Cordele  
 Dorminy, J. N., Cordele (Hon.)  
 Flournoy, H. C., Warwick  
 Gower, Orien T., Jr., Cordele  
 Harwell, C. W., Cordele  
 McArthur, Chas. E., Cordele  
 Snelling, John M., Jr., Ashburn  
 Wheelchel, A. J., Cordele  
 Williams, H. J., Cordele  
 Williams, L. E., Cordele  
 Williams, P. L., Cordele  
 Williams, P. L., Jr., Cordele  
 Wootten, L. O., Cordele

**DECATUR-SEMINOLE  
COUNTIES****Officers**

President.....Wilkinson, W. L.  
 Vice-President.....Whittle, Wm. E.  
 Secretary-Treasurer.....Ehrlich, M. A.  
 Delegate.....Wheat, R. F.  
 Alternate Delegate.....Willis, L. W.

**Members**

Alford, A. E. B., Bainbridge  
 Baxley, Harry B., Donalsonville  
 Belleville, Chas. Geo., Bainbridge  
 Bridges, E. C., Donalsonville  
 Chason, Gordon, Bainbridge  
 Ehrlich, M. A., Bainbridge  
 Epps, George L., Bainbridge  
 Fort, M. A., Bainbridge  
 Jenkins, H. B., Donalsonville  
 Moseley, E. E., Donalsonville  
 Polk, James W., Donalsonville  
 Spooner, John I., Donalsonville  
 (Hon.)  
 Tucker, John P., Bainbridge  
 Welch, Carl B., Attapulgus  
 Wheat, R. F., Bainbridge  
 Whittle, Wm. E., Iron City  
 (Deceased)  
 Wilkinson, W. L., Bainbridge  
 Willis, L. W., Bainbridge

**DEKALB COUNTY****Officers**

President.....McGeachy, T. E.  
 Vice-President.....Cunningham, C. E.  
 Sec.-Treas.....Matthews, Lawrence P.  
 Delegate.....Allen, H. Homer  
 Alt. Delegate.....Cunningham, C. E.

**Members**

Allen, H. Homer, 520 Church St., Decatur  
 Allgood, C. L., Scottdale  
 Ansley, R. B., 121 Clairmont Ave., Decatur  
 Beck, John E., 113 Clairmont Ave., Decatur  
 Blincoc, Homer, P. O. Box 789, Emory University  
 Crichton, Robert B., Lithonia  
 Cunningham, C. E., Masonic Temple, Decatur  
 Duncan, G. A., Masonic Temple, Decatur  
 Evans, J. R., 120 Clairmont Ave., Decatur  
 Kerr, Wm. K., Chamblee  
 Leslie, John T., 121 Clairmont Ave., Decatur  
 Litton, James H., Tucker  
 Matthews, Lawrence P., 1282 S. Oxford Road, N. E., Atlanta  
 McCullough, J. A., 27 Ferguson Ave., Port Jervis, N. J.

McCurdy, Willis T., Stone Mountain  
McGeachy, Thos. E., 520 Church St.,  
Decatur  
Mendenhall, W. A., Chamblee  
Powell, F. C., 319 Church St.,  
Decatur  
Rice, Guy V., Georgia Dept. of  
Public Health, Atlanta  
Sanders, Floyd R., Jr., Masonic  
Temple, Decatur  
Smith, W. P., Jr., P. O. Box 125,  
Decatur  
Stewart, Thos. W., Lithonia  
Vogt, Elkin, Lithonia  
Williams, David C., 216 Sycamore  
Drive, Decatur

### DOOLY COUNTY

#### Officers

President.....Daves, V. C.  
Secretary-Treas.....Malloy, Martin L.  
Delegate.....Schimmel, W. A.  
Alternate Delegate.....Davis, E. B.

#### Members

Daves, V. C., Vienna  
Davis, E. B., Byromville  
Kitchens, O. W., Byromville  
Malloy, Martin L., Vienna  
Schimmel, W. A., Unadilla

### DOUGHERTY COUNTY

#### Officers

President.....Bowman, M. B.  
Vice-President.....McKemie, W. Frank  
Secretary-Treasurer.....Lucas, I. M.  
Delegate.....Barnett, J. M.  
Alternate Delegate.....Cook, W. S.  
Censors: Hilsman, P. L.; Thomas,  
Frank E.; and Russell, Paul T.

#### Members

Armstrong, Edward S., Albany  
Barnett, J. M., Albany  
Bowman, M. B., Albany  
Buckner, Frank W., Albany  
Cole, Thomas M., Albany  
Cook, W. S., Albany  
Feild, W. M., Albany  
Freeman, Alex R., Albany  
(Deceased)  
Hilsman, P. L., Albany  
Ingram, Lillian, Albany  
Irvin, I. W., Albany  
James, Alfred E., Albany  
Keaton, J. C., Albany  
Lucas, I. M., Albany  
McDaniel, J. Z., Albany  
McKemie, H. M., Albany  
McKemie, W. Frank, Albany  
Neill, F. K., Albany  
Redfean, J. A., Albany  
Rhyne, W. P., Albany  
Roberson, Phil E., Albany  
Russell, Paul T., Albany  
Seymour, Glenn E., Albany  
Thomas, Frank E., Albany  
Thomas, N. R., Albany  
Tye, J. P., Albany  
Wolfe, David M., Albany

### ELBERT COUNTY

#### Officers

President.....Thompson, D. N.  
Vice-President.....Johnson, W. A.  
Secretary-Treasurer.....Johnson, A. S.  
Delegate.....Thompson, D. N.

#### Members

Gaines, T. H., R. F. D. 2, Elberton  
Johnson, A. S., Elberton  
Johnson, A. S., Jr., Elberton

Johnson, J. E., Jr., Elberton  
Johnson, W. A., Elberton  
Smith, A. C., Elberton  
Smith, F. A., Elberton  
Thompson, D. N., Elberton

### EMANUEL COUNTY

#### Officers

President.....Younmans, S. S.  
Vice-President.....Smith, D. D.  
Secretary-Treasurer.....Powell, C. E.  
Delegate.....Brown, R. G.  
Alternate Delegate.....Powell, C. E.  
Censors: Brown, R. G.; Smith, D.  
D.; and Powell, C. E.

#### Members

Brown, R. G., Swainsboro  
Powell, C. E., Swainsboro  
Smith, D. D., Swainsboro  
Smith, H. W., Swainsboro  
Younmans, S. S., Swainsboro

### FLOYD COUNTY

#### Officers

President.....McCord, Ralph B.  
Vice-President.....Gilbert, Warren M.  
Secretary-Treas.....Battle, Lee H., Jr.  
Delegate.....Jenkins, Oliver W.  
Censors: Norton, Robert F.; Chen-  
ey, G. W. Holmes; and Maddox,  
Robert C.

#### Members

Battle, Lee H., Jr., Rome  
Blalock, Frank A., Rome  
Bosworth, Ed R., Rome  
Brannon, Emmett, Rome  
Brzozowski, Grover S., Rome  
Cagle, W. D., Rome  
Chandler, J. L., Rome  
Cleuey, C. W. Holmes, Rome  
Connor, J. C., Cave Springs  
Crawford, J. M., Cave Springs  
Crenshaw, Fred, Rome  
Crow, H. E., Rome  
Davis, Ralph J., Rome  
Dawson, Harry, Shannon  
Dellinger, A. H., Rome  
Dellinger, Raiden W., Rome  
Elmore, B. V., Rome  
Garner, J. S., Jr., Rome  
Garrard, J. L., Rome  
Gilbert, Warren M., Rome  
Hackett, Walter G., Rome  
Harbin, B. Lester, Rome  
Harbin, Robert M., Rome  
Harbin, Thomas S., Rome  
Harbin, Wm. P., Jr., Rome  
Jenkins, Oliver W., Lindale  
Johnson, Ralph N., Rome  
Lewis, W. H., Rome  
Maddox, Robert C., Rome  
McCall, J. T., Rome  
McCall, J. T., Jr., Rome  
McCord, M. M., Rome  
McCord, Ralph B., Rome  
Methvin, S. R., Lindale (Hon.)  
Moore, Clifford, Lindale  
Moore, Cliff, Jr., Lindale  
Moss, T. H., Rome  
Mull, J. H., Rome  
Norton, Robert F., Rome  
Payne, Rufus Floyd, Rome  
Routledge, A. F., Rome  
Sapp, C. J., Rome  
Sewell, W. A., Rome  
Smith, G. B., Rome  
Smith, Inman, Rome  
Williams, Norton L., Rome  
Wyatt, C. J., Jr., Rome

### FORSYTH COUNTY

#### Officers

President.....Bramblett, Rupert H.  
Vice-Pres.....Mashburn, Marcus, Sr.  
Secretary-Treas.....Brooks, Courtney C.  
Delegate.....Mashburn, Marcus, Sr.  
Alt. Delegate.....Brooks, Courtney C.

#### Members

Bramblett, Rader H., Route 3,  
Cumming  
Bramblett, Rupert H., Route 3,  
Cumming  
Brooks, Courtney C., Cumming  
Lipscomb, W. E., Cumming  
Mashburn, James S., Cumming  
Mashburn, Marcus, Sr., Cumming  
Mashburn, Marcus, Jr., Cumming

### FRANKLIN COUNTY

#### Officers

President.....Brown, Stewart D.  
Secretary-Treasurer.....Poole, E. T.  
Delegate.....Ridgeway, R. E.

#### Members

Brown, Stewart D., Royston  
McCrary, H. L., Royston (Deceased)  
McCrary, J. O., Royston  
Parker, G. M., Carnesville  
Poole, E. T., Lavonia  
Ridgway, R. E., Royston  
Smith, B. T., Carnesville  
Williams, John Weldon, Jr., Lavonia

### FULTON COUNTY

#### Officers

President.....Wood, R. Hugh  
President-Elect.....Daniel, W. W.  
Vice-President.....Rudder, Fred F.  
Secretary-Treas.....Johnson, McClaren  
Delegate.....Wood, R. Hugh  
Delegate.....Daniel, W. W.  
Delegate.....Johnson, McClaren  
Delegate.....Jernigan, H. Walker  
Delegate.....Linch, A. O.  
Delegate.....Dougherty, Mark S., Jr.  
Delegate.....Greene, Edgar H.  
Delegate.....McDaniel, J. G.  
Delegate.....Nippert, Philip H.  
Delegate.....Allen, Eustace A.

#### Members

Abbott, Osler A., Emory University  
Hospital, Emory University  
Abercrombie, T. F., Georgia Dept.  
of Public Health, Atlanta  
Adams, Chas. C., 3075 Peachtree  
Rd., N. E., Atlanta  
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 Dave; and Stapleton, J. L.

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 Columbus  
 Berman, Dave, Doctors Bldg.,  
 Columbus  
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 Columbus  
 Bickerstaff, H. J., Swift Bldg.,  
 Columbus  
 Blanchard, Mercer, 204 11th St.,  
 Columbus  
 Boyter, Henry H., 204 11th St.,  
 Columbus  
 Brannen, O. C., Murrah Bldg.,  
 Columbus  
 Bush, John, 313 14th St., Columbus  
 Butler, C. C., Swift Bldg., Columbus  
 Campbell, W. H., 1144 Broadway,  
 Columbus  
 Chipman, R. A., Swift Bldg.,  
 Columbus  
 Comstock, George W., U. S. Public  
 Health Service, Columbus  
 Conner, Geo. R., 1229 2nd Ave.,  
 Columbus  
 Cook, Wm. C., Swift Bldg.,  
 Columbus  
 Cooke, W. L., Doctors Bldg., Colum-  
 bus (Hon.)  
 Curtiss, Edgar John, Doctors Bldg.,  
 Columbus  
 Dillard, Guy J., Murrah Bldg.,  
 Columbus  
 Dykes, A. N., 1229 2nd Ave.,  
 Columbus  
 Edleson, Louis R., First Natl. Bank  
 Bldg., Columbus  
 Edwards, F. D., 1344 2nd Ave.,  
 Columbus  
 Freeman, Edward R., 313 14th St.,  
 Columbus  
 Gibson, R. L., Murrah Bldg.,  
 Columbus  
 Gilliam, O. D., Doctors Bldg.,  
 Columbus  
 Jenkins, W. F., City Hospital,  
 Columbus  
 Jones, Wm. R., Doctors Bldg.,  
 Columbus  
 Jordan, W. P., Doctors Bldg.,  
 Columbus  
 Jordan, W. P., Jr., Doctors Bldg.,  
 Columbus  
 Land, Polk S., 3440 Hamilton Ave.,  
 Columbus  
 Lapides, Leon, Swift Bldg.,  
 Columbus

Love, William G., 1312 3rd Ave.,  
 Columbus  
 Lorton, Norman S., 516 14th St.,  
 Phoenix City, Ala.  
 Mayher, J. W., 1344 2nd Ave.,  
 Columbus  
 Mayher, Wm. E., 1344 2nd Ave.,  
 Columbus  
 McDuffie, J. H., Jr., 1120 3rd Ave.,  
 Columbus  
 McWhorter, M. R., 313 14th St.,  
 Columbus  
 Moses, Alice, 1413 2nd Ave.,  
 Columbus  
 Munn, E. K., Murrah Bldg.,  
 Columbus  
 Murray, G. S., Swift Bldg.,  
 Columbus  
 Peacock, Clifford A., Murrah Bldg.,  
 Columbus  
 Schley, Frank B., 303 11th St.,  
 Columbus  
 Schuessler, George, 1437 2nd Ave.,  
 Columbus  
 Smith, Chas. R., Doctors Bldg.,  
 Columbus  
 Snelling, W. R., 1315 4th Ave.,  
 Columbus  
 Stapleton, J. L., 1100 3rd Ave.,  
 Columbus  
 Storey, W. E., 1312 3rd Ave.,  
 Columbus  
 Thompson, John B., Jr., Flowers  
 Bldg., Columbus  
 Thrash, J. A., 1310 Broadway,  
 Columbus  
 Threatte, Bruce, 204 11th St.,  
 Columbus  
 Tidwell, J. T., Doctors Bldg.,  
 Columbus  
 Tillery, Bert, Swift Bldg., Columbus  
 Venable, D. R., City Hospital,  
 Columbus  
 Walker, John E., 1223 3rd Ave.,  
 Columbus  
 Wallis, H. G., 1112½ Broad,  
 Columbus  
 Willis, J. N., Swift Bldg., Columbus  
 Wilson, J. M., Doctors Bldg.,  
 Columbus  
 Winn, J. H., Swift Bldg., Columbus  
 Wolff, Luther H., 1312 3rd Ave.,  
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 Columbus  
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 Secy.-Treas.....Mitchell, J. B., Jr.  
 Delegate.....Sams, J. R.  
 Alternate Delegate.....Huson, W. J.

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 Mitchell, J. B., Jr., Porterdale  
 Nesbit, F. C., Covington  
 Palmer, C. B., Covington  
 Pitts, Julius T., Newborn  
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 Vice-President.....Bush, Albert R.  
 Secretary-Treasurer.....Baker, Wm. R.  
 Delegate.....Thompson, James L.  
 Alternate Delegate.....Bush, Albert R.

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 Batts, A. S., Hawkinsville  
 Bush, Albert R., Hawkinsville  
 Coleman, W. A., Eastman  
 (Deceased)  
 Evans, A. P., Hawkinsville  
 (Deceased)  
 Harp, S. L., Cochran  
 Holder, Frank P., Jr., Eastman  
 Jones, Edward G., Eastman  
 Long, H. W., Eastman  
 Massey, W. F., Chester  
 Mayo, J. Palmer, Eastman  
 Smith, A. L., Cochran  
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 Vice-President.....Spanjer, Raymond F.  
 Secretary-Treasurer.....Ross, Grace R.  
 Delegate.....Griffith, J. E.  
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 O. R.; and Hagan, James Howard

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 Chapman, W. A., Cedartown (Hon.)  
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 Cooper, J. J., Cedartown  
 Elliott, Cecil B., Cedartown  
 Golden, Robert B., Rockmart  
 Good, John W., Cedartown  
 Griffith, J. E., Rockmart  
 Hagan, James Howard, Rockmart  
 Lucas, W. H., Cedartown  
 McBryde, T. E., Rockmart  
 McGehee, John M., Cedartown  
 Ross, Grace R., Cedartown  
 Spanjer, Raymond F., Cedartown  
 Styles, O. R., Cedartown  
 White, Geo. M., Rockmart  
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**RABUN COUNTY****Officers**

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 Secretary-Treasurer.....Green, J. A.  
 Delegate.....Dover, J. C.  
 Alternate Delegate.....Green, J. A.

**Members**

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 Vice-President.....Martin, Walter D.  
 Secretary-Treasurer.....Elliott, W. G.  
 Delegate.....Martin, Walter D.  
 Alternate Delegate.....Woddial, Jos. D.  
 Censors: Rogers, F. S.; Sims, A. R.;  
 and Tidmore, Jos. C.

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Arnold, J. T., Parrott  
 Carter, George, Shellman (Hon.)



Crook, W. W., Cuthbert  
(Deceased)  
Daniel, Ernest F., Jr., Dawson  
Elliott, W. G., Cuthbert  
Gary, Loren, Georgetown  
Harper, T. F., Coleman  
Kenyon, J. M., Richland (Hon.)  
Kenyon, Steve P., Dawson  
Lewis, J. H., Dawson (Hon.)  
Lunsford, J. F., Preston  
Martin, F. M., Shellman  
Martin, Robert B., III, Cuthbert  
Martin, Walter D., Shellman  
Patterson, J. C., Cuthbert  
Roberts, W. V., Lumpkin  
Rogers, F. S., Coleman  
Sims, A. R., Richland  
Tidmore, Jos. C., Dawson  
Woddial, Jos. D., Lumpkin

## RICHMOND COUNTY

### Officers

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Vice-President..... Gray, J. D.  
Secretary-Treas. Mulherin, Chas. M.  
Delegate..... Wright, Geo. W.  
Delegate..... McGahee, R. C.  
Delegate..... Williams, W. J.  
Censors: Roule, J. Victor; Harper,  
Harry T., Jr.; and Volpitto,  
Perry P.

### Members

Agee, M. P., 753 Broad St., Augusta  
Battey, Colden R., 921 Greene St.,  
Augusta  
Battey, W. W., Jr., 561 Telfair St.,  
Augusta  
Bazemore, J. Malcolm, 1303 Monte  
Sano Ave., Augusta  
Beard, B. C., 739 Greene St.,  
Augusta  
Bedingfield, W. R., Southern Finance  
Bldg., Augusta  
Bell, Jack E., 407 7th St., Augusta  
Bernard, G. T., 204 13th St., Augusta  
Bowen, J. B., Southern Finance  
Bldg., Augusta  
Boyd, Wm. S., 1020 Greene St.,  
Augusta  
Brittingham, John W., 1345 Greene  
St., Augusta  
Brown, T. P., Marion Bldg., Augusta  
Bryans, C. L., 967 Meigs, St.,  
Augusta  
Burdashaw, J. F., Johnson Bldg.,  
Augusta  
Burdashaw, Wm. J., Jr., 718 Monte  
Sano Ave., Augusta  
Butler, J. H., Southern Finance  
Bldg., Augusta  
Chaney, Ralph H., 1001 Greene St.,  
Augusta  
Clary, Thomas L., Jr., 1345 Greene  
St., Augusta  
Clayton, M. D., Veterans Hospital,  
Augusta  
Cleckley, Hervey M., University  
Hospital, Augusta  
Cleve, E. A., Oliver General Hos-  
pital, Augusta (Asso.)  
Coleman, Warren, 2749 Hillcrest,  
Augusta (Hon.)  
Corbitt, Melvis O., 1309 Holden St.,  
Augusta  
Cranston, W. J., 1345 Greene St.,  
Augusta

Davis, Abe J., 1302 Wilson, Augusta  
DeVaughn, N. M., Marion Bldg.,  
Augusta  
Dick, Fred, Jr., 3119 Bransford  
Road, Augusta  
Edenfield, J. R., Doctors Bldg.,  
Augusta  
Fulghum, Thos. E., Southern Fin-  
ance Bldg., Augusta  
Fuller, Wm. A., 1345 Greene St.,  
Augusta  
Gillman, Nathan, Oliver General  
Hospital, Augusta (Asso.)  
Goodrich, W. H., 1345 Greene St.,  
Augusta (Deceased)  
Goodwin, Thos. W., Southern Fin-  
ance Bldg., Augusta  
Gray, J. D., 1345 Greene St.,  
Augusta  
Greenblatt, Robert B., University of  
Ga. School of Medicine, Augusta  
Harper, Harry T., Jr., Marion Bldg.,  
Augusta  
Harrell, H. P., Southern Finance  
Bldg., Augusta  
Harrison, F. N., 407 7th St.,  
Augusta  
Haynsworth, C. H., 1331 Greene  
St., Augusta  
Henry, C. G., Southern Finance  
Bldg., Augusta  
Hensley, E. A., Gibson  
Hitchcock, J. P., 561 Telfair St.,  
Augusta  
Hock, Chas. W., University Hos-  
pital, Augusta  
Holmes, L. P., Southern Finance  
Bldg., Augusta  
Jennings, W. D., Herald Bldg.,  
Augusta  
Johnson, Robert W., 1345 Greene  
St., Augusta  
Jones, G. Frank, Jr., University  
Hospital, Augusta  
Kelly, Alex R., Jr., Phipps Clinic,  
Johns Hopkins Hospital, Balti-  
more 5, Md.  
Kelly, G. Lombard, University of  
Ga. School of Medicine, Augusta  
Kennedy, F. A., 1345 Greene St.,  
Augusta  
Kilpatrick, A. J., 407 7th St.,  
Augusta  
Kilpatrick, Chas. M., Southern Fin-  
ance Bldg., Augusta  
Klemann, G. L., Marion Bldg.,  
Augusta  
Kupperman, Herbert S., University  
Hospital, Augusta  
Lee, F. Lansing, Southern Finance  
Bldg., Augusta  
Leonard, Robert E., 1001 Greene  
St., Augusta  
LeRoy, Albert G., Southern Finance  
Bldg., Augusta  
Levy, Jack H., 18 S. Whitney St.,  
Hartford 6, Conn.  
Levy, M. S., Richmond Hotel,  
Augusta  
Lewis, S. J., Southern Finance  
Bldg., Augusta  
Major, Robert C., University Hos-  
pital, Augusta  
Martin, John M., 407 7th St.,  
Augusta  
Massengale, Leonard R., Univer-  
sity Hospital, Augusta  
Mathews, Marion W., Marion Bldg.,  
Augusta  
Matthews, W. E., Southern Finance  
Bldg., Augusta  
May, E. R., Lincolnton  
McGahee, R. C., 1345 Greene St.,  
Augusta  
McGinty, H. C., Shirley Apts.,  
Augusta  
Mealing, H. G., Southern Finance  
Bldg., Augusta  
Mettler, Fred A., Columbia Uni-  
versity College of Physicians &  
Surgeons, New York, N. Y.  
Michel, H. M., University Hospital,  
Augusta  
Miller, Abraham, 1345 Greene St.,  
Augusta  
Miller, Harold A., Box 359, Augusta  
Miller, John M., 1345 Greene St.,  
Augusta  
Milligan, K. W., 942 Greene St.,  
Augusta  
Mountain, G. W., 432 Telfair St.,  
Augusta  
Mulherin, Chas. M., 1211 Greene  
St., Augusta  
Mulherin, F. X., 1001 Greene St.,  
Augusta  
Mulherin, Philip A., 1211 Greene  
St., Augusta  
Murphey, E. E., 432 Telfair St.,  
Augusta  
New, James S., 1345 Greene St.,  
Augusta  
Norvell, J. T., 1240 Greene St.,  
Augusta  
Palmer, John R., Jr., 1020 Greene  
St., Augusta  
Perkins, H. R., Southern Finance  
Bldg., Augusta  
Persall, John T., Jr., Southern Fin-  
ance Bldg., Augusta  
Philpot, W. K., 1345 Greene St.,  
Augusta  
Phinizy, Irvine, Southern Finance  
Bldg., Augusta  
Phinizy, Thomas, 1345 Greene St.,  
Augusta  
Pinson, Harry D., 1741 King Woods  
Drive, Augusta  
Price, Wm. T., Leonard Bldg.,  
Augusta  
Pund, Edgar R., University of Ga.  
School of Medicine, Augusta  
Rhodes, R. L., Southern Finance  
Bldg., Augusta  
Rinker, J. Robert, University Hos-  
pital, Augusta  
Risteen, W. A., University Hospital,  
Augusta  
Roberts, W. H., 828 Greene St.,  
Augusta  
Robertson, J. Righton, 1345 Greene  
St., Augusta  
Roule, J. Victor, Southern Finance  
Bldg., Augusta  
Sanderson, E. S., University of Ga.  
School of Medicine, Augusta  
Scharnitzky, E. O., 1262 Greene St.,  
Augusta  
Schmidt, Henry L., 2504 Helen St.,  
Augusta

Sherman, John H., University Hospital, Augusta  
 Silver, D. M., Southern Finance Bldg., Augusta  
 Sydenstricker, V. P., University Hospital, Augusta  
 Templeton, C. M., Southern Finance Bldg., Augusta  
 Tessier, Claude E., Masonic Bldg., Augusta  
 Thomas, D. R., Jr., Southern Finance Bldg., Augusta  
 Thurmond, A. G., 623 Greene St., Augusta  
 Thurmond, J. W., 623 Greene St., Augusta  
 Timmons, C. C., 415 Milledge Road, Augusta  
 Torpin, Richard, University of Ga. School of Medicine, Augusta  
 Volpitta, Perry P., University Hospital, Augusta  
 Ward, C. D., 1345 Greene St., Augusta  
 Watson, W. G., 623 Greene St., Augusta  
 Weeks, J. L., Harlem  
 Weeks, R. B., Southern Finance Bldg., Augusta  
 Wilkes, W. A., University Hospital, Augusta  
 Williams, Virgil B., University Hospital, Augusta  
 Williams, W. J., Southern Finance Bldg., Augusta  
 Willis, C. H., Jr., Southern Finance Bldg., Augusta  
 Woodbury, Robert A., University Hospital, Augusta  
 Wright, Geo. W., 1345 Greene St., Augusta  
 Wright, P. B., 1345 Greene St., Augusta  
 Yates, T. M., 1113 Fairview Drive, Columbia, S. C.

### ROCKDALE COUNTY

#### Officers

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 Delegate Griggs, Harvey E.

#### Member

Griggs, Harvey E., Conyers.

### SPALDING COUNTY

#### Officers

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 Secretary-Treasurer Jones, Alex P.  
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 Alternate Delegate Vinson, T. O.  
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 Copeland, H. J., Griffin  
 Copeland, H. W., Griffin  
 English, R. E. L., Griffin  
 Floyd, T. J., Jr., Griffin  
 Forrer, D. A., Griffin  
 Frye, A. H., Griffin (Deceased)  
 Frye, Augustus H., Jr., Griffin  
 Giles, J. T., Griffin  
 Grubbs, J. H., Molena  
 Gunter, R. A., Veterans Hospital, Phoenix, Ariz.  
 Hammond, Robert L., Jackson  
 Head, D. L., Zebulon

Head, M. M., Zebulon  
 Howard, I. B., Williamson  
 Hunt, Kenneth S., Griffin  
 Ingram, Starr, Doctors Hospital, East End Ave. at 87th St., New York, N. Y.  
 Jones, Alex P., Griffin  
 King, Harry C., Griffin  
 Miles, W. C., Griffin  
 Oshlag, A. M., Griffin  
 Smaha, Tofey G., Griffin  
 Stuckey, Ann, Griffin  
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### STEPHENS COUNTY

#### Officers

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 Vice-President Shiflet, Robt. E.  
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 Delegate Schaefer, W. Bruce  
 Alt. Delegate Watters, Julian Q.  
 Censors: Chaffin, E. F.; Singer, Arthur G., Jr., and Terrell, J. H.

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 Chaffin, E. F., Toccoa  
 Edge, J. H., Toccoa (Hon.)  
 Good, Wm. H., Jr., Toccoa  
 Heller, W. B., Toccoa (Hon.)  
 Henry, Chas. M., Toccoa  
 Isbell, J. E. D., Toccoa  
 Schaefer, W. Bruce, Toccoa  
 Shiflet, Robt. E., Toccoa  
 Singer, Arthur G., Jr., Toccoa  
 Terrell, J. H., Toccoa (Deceased)  
 Watters, Julian Q., Toccoa

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#### Officers

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 Vice-President Boyette, L. S.  
 Secretary-Treasurer Enzor, R. H.  
 Delegate Pendergrass, R. C.

#### Members

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 Boyette, L. S., Ellaville  
 Cheves, Landgon C., Jr., Montezuma  
 Durham, Bon M., Americus  
 Enzor, R. H., Smithville  
 Fenn, Henry R., Americus  
 Gatewood, T. Schley, Americus  
 Logan, J. Colquitt, Plains  
 McMath, Wm. Bates, Americus  
 Pendergrass, R. C., Americus  
 Primrose, A. C., Americus  
 Robinson, John H., III, Americus  
 Savage, C. P., Montezuma  
 Seav, E. Faxton, Marshallville  
 Smith, Herschel A., Americus  
 Stukes, J. T., Americus  
 Thomas, Russell B., Americus  
 Wise, B. T., Americus  
 Wood, Kenneth, Leslie

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#### Officers

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 Vice-President Strickland, L. V.  
 Secy.-Treas. McCarver, W. C., Jr.  
 Delegate Jelks, L. R.  
 Censors: Collins, J. C.; Hughes, J. M.; and Pinkston, A. G.

#### Members

Collins, J. C., Collins  
 Colson, A. C., Glennville  
 Hughes, J. M., Glennville  
 Jelks, L. R., Reidsville

McCarver, W. C., Jr., Glennville  
 Pinkston, A. G., Glennville  
 Smith, S. F., Glennville  
 Strickland, L. V., Cobbtown  
 Tootle, G. W., Springfield

### TAYLOR COUNTY

#### Officers

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 Vice-President Sams, F. H.  
 Secy.-Treas. Montgomery, R. C.  
 Delegate Sams, F. H.

#### Members

Beason, Lewis, Butler  
 Bryan, S. H., Reynolds  
 Montgomery, R. C., Butler  
 Sams, F. H., Reynolds

### TELFAIR COUNTY

#### Officers

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 Vice-President Maloy, C. J.  
 Secretary-Treasurer Mann, Frank R.  
 Delegate Parkerson, S. T.  
 Alternate Delegate Maloy, C. J.  
 Censors: Born, W. H.; Parkerson, S. T.; and Maloy, C. J.

#### Members

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 Harrell, Augustus O., Milan  
 Maloy, C. J., McRae  
 Mann, Frank R., McRae  
 McRae, D. B., McRae  
 Parkerson, S. T., McRae

### THOMAS COUNTY

#### Officers

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 Vice-President Palmer, Joe I.  
 Secretary-Treasurer Shepard, Kirk  
 Delegate Dillinger, Geo. R.  
 Alternate Delegate Shepard, Kirk

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 Bell, Rudolph, Thomasville  
 Bellhouse, Helen W., Thomasville  
 Cheney, Fred D., Veterans Admin. Hospital, Thomasville  
 Collins, J. J., Thomasville  
 Daniel, Frank C., Pavo  
 Dillinger, Geo. R., Thomasville  
 Erickson, Mary J., Thomasville  
 Futch, T. Allen, Jr., Thomasville  
 Garrett, J. A., Meigs  
 Harner, J. W., Jr., Thomasville  
 Hill, Arthur W., Thomasville  
 Isler, J. N., Meigs  
 Jarrell, W. W., Thomasville  
 King, J. T., Thomasville  
 Levy, Tracy, Veterans Hospital, Tuscaloosa, Ala.  
 Little, A. D., Thomasville (Deceased)  
 Little, Frank A., Thomasville  
 Lundy, L. L., Boston  
 Mobley, J. W., Jr., Thomasville  
 Moore, H. M., Thomasville  
 Palmer, Joe I., Thomasville  
 Pepin, Henry S., Thomasville  
 Readling, Herbert F., Thomasville  
 Reid, James W., Thomasville  
 Sanchez, S. E., Jr., Barwick  
 Shepard, Kirk, Thomasville  
 Thurston, John A., Thomasville  
 Wahl, Ernest F., Thomasville  
 Wall, C. K., Thomasville  
 Watt, C. H., Thomasville  
 Wine, Mervin B., Thomasville



**TIFT COUNTY****Officers**

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 Vice-President..... Pittman, Carl S., Jr.  
 Secy.-Treas..... Winston, Richard K.  
 Delegate..... Pittman, Carl S., Jr.  
 Alt. Delegate..... Winston, Richard K.

**Members**

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 Andrews, Ella F., Tifton  
 Evans, E. L., Tifton  
 Fleming, C. A., Tifton  
 Harrell, D. B., Tifton  
 Hendricks, W. H., Tifton  
 Jones, R. E., Tifton  
 Little, Tom F., U. S. Army  
 Pickett, F. B., Ty Ty  
 Pittman, Carl S., Tifton  
 Pittman, Carl S., Jr., Tifton  
 Shaw, M. F., Omega  
 Webb, M. L., Tifton  
 Winston, Richard K., Tifton  
 Zimmerman, Charles E., Tifton  
 Zimmerman, W. F., Tifton

**TOOMBS COUNTY****Officers**

President..... Youmans, H. D.  
 Secretary-Treasurer..... Aiken, W. W.  
 Delegate..... Mercer, J. E.

**Members**

Aiken, W. W., Lyons  
 Findley, C. W., Vidalia  
 Gross, O. S., Vidalia  
 Mercer, J. E., Vidalia  
 Youmans, H. D., Lyons

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 Vice-President..... Sharp, C. K.  
 Secretary-Treasurer..... Standifer, J. G.  
 Delegate..... Standifer, J. G.  
 Alternate Delegate..... Sharp, C. K.

**Members**

Barksdale, C. R., Blakely  
 (Deceased)  
 Baxley, W. C., Blakely  
 Beard, J. S., Edison  
 Bridges, R. R., Leary  
 Hattaway, J. C., Edison  
 Hays, W. C., Colquitt  
 Holland, S. P., Blakely  
 Houston, W. H., Colquitt  
 Martin, James B., Edison  
 Merritt, J. W., Colquitt  
 Sharp, C. K., Arlington  
 Shepard, J. L., Damascus  
 Shepard, W. O., Bluffton  
 Standifer, J. G., Blakely  
 Twitty, C. W., Newton  
 Wall, W. H., Blakely

**TRI-COUNTY****Liberty-Long-McIntosh Counties****Officers**

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 Delegate..... Middleton, O. D.  
 Alt. Delegate..... Armistead, I. G.

**Members**

Armistead, I. G., Townsend  
 Middleton, O. D., Ludowici

**TROUP COUNTY****Officers**

President..... Rutland, S. C.  
 Vice-President..... Hadaway, W. H.  
 Secy.-Treas..... Molyneaux, E. W.  
 Delegate..... Clark, W. H.

Alt. Delegate..... Callaway, Enoch  
 Censors: Callaway, Enoch; and  
 O'Neal, R. S.

**Members**

Amis, Frank J., Jr., Hogansville  
 Arnold, E. T., Jr., Hogansville  
 Auten, W. J., 413 19th St., Birmingham, Ala.  
 Avery, R. M., LaGrange  
 Callaway, Enoch, LaGrange  
 Chambers, James W., LaGrange  
 Clark, W. H., LaGrange  
 Freeman, Thos. N., Jr., LaGrange  
 Grace, Kenneth D., LaGrange  
 Grady, Henry W., LaGrange  
 Hadaway, W. H., LaGrange  
 Hand, Hollis, LaGrange  
 Hammett, H. H., LaGrange  
 Hammett, H. H., Jr., LaGrange  
 Harvey, C. W., Hogansville  
 Herman, E. C., LaGrange  
 Holder, J. S., LaGrange  
 Jones, H. T., West Point  
 Lane, J. E., LaGrange  
 Lee, R. O., LaGrange  
 McCall, W. R., LaGrange  
 McCulloh, Hugh, West Point  
 Molyneaux, E. W., Hogansville  
 Morgan, D. E., LaGrange  
 Morgan, J. D., West Point  
 Norman, Lewis G., Jr., West Point  
 O'Neal, R. S., LaGrange  
 Park, E. R., LaGrange  
 Peebles, Wm. J., LaGrange  
 Phillips, W. P., LaGrange  
 Ridley, F. M., LaGrange  
 Rutland, S. C., LaGrange  
 Taylor, John L., Franklin  
 Williams, C. O., West Point

**TURNER COUNTY****Officers**

Secretary-Treasurer..... Baxter, J. H.  
 Delegate..... Baxter, J. H.

**Members**

Baxter, J. H., Ashburn  
 Story, W. L., Ashburn (Hon.)

**UPSON COUNTY****Officers**

President..... Dallas, R. E.  
 Vice-President..... Woodall, Wm. Pruitt  
 Secretary-Treas..... Girardeau, Ivylyn  
 Delegate..... Kellum, J. M.  
 Alternate Delegate..... Woodall, Jas. A.

**Members**

Adams, B. C., Thomaston  
 Barron, H. A., Thomaston (Hon.)  
 Blackburn, John D., Thomaston  
 Bridges, B. L., Thomaston  
 Carter, R. L., Thomaston  
 Dallas, R. E., Thomaston  
 Garner, J. E., Thomaston  
 Girardeau, Ivylyn, Thomaston  
 Harris, C. A., The Rock  
 Kellum, J. M., Thomaston  
 McCurdy, J. W., Thomaston  
 (Deceased)  
 McKenzie, J. M., Thomaston  
 Sappington, T. A., Thomaston  
 Woodall, Frank M., Thomaston  
 Woodall, James A., Thomaston  
 Woodall, Wm. Pruitt, Thomaston

**WALKER-CATOOSA-DADE****COUNTIES****Officers**

President..... Vassey, G. C.  
 Vice-President..... Stephenson, C. W.  
 Secretary-Treas..... Hoover, John P.

Delegate..... Simonton, Fred H.  
 Alt. Delegate..... Cornett, Dennis M.  
 Censors: Alsobrook, J. S.; Stephenson, C. W.; and Shepard, R. C.

**Members**

Alexander, L. L., Rossville  
 Alsobrook, J. S., Rossville (Hon.)  
 Cornett, Dennis M., LaFayette  
 Coulter, R. M., LaFayette (Hon.)  
 Derrick, Howard C., Jr., LaFayette  
 Gardner, J. L., Sulphur Springs  
 Hammond, D. W., LaFayette  
 Hoover, John P., Rossville  
 Kitchens, S. B., LaFayette  
 Middleton, D. S., Rising Fawn (Hon.)  
 O'Connor, Frank L., Rossville  
 Pope, Roy, Jr., Chickamauga  
 Shepard, R. C., LaFayette  
 Shields, H. F., Chickamauga  
 Simonton, Fred H., Chickamauga  
 Stephenson, C. W., Ringgold  
 Vassey, G. C., Rossville

**WALTON COUNTY****Officers**

President..... Gerdine, John  
 Vice-President..... Stewart, Philip R.  
 Secy.-Treas..... DeFreese, Samuel J.  
 Delegate..... Anderson, M. W.  
 Alternate Delegate..... Head, Homer

**Members**

Anderson, M. W., Social Circle  
 DeFreese, Samuel J., Monroe  
 Floyd, Chas. S., Loganville  
 Gerdine, John, Jersey  
 Head, Homer, Monroe  
 Huie, Lynn M., Monroe  
 Stewart, Philip R., Monroe  
 Thompson, Ernest, Monroe  
 Traylor, James B., Jasper

**WARE COUNTY****Officers**

President..... Oden, Lewis H., Jr.  
 Vice-President..... Collins, B. E.  
 Secretary-Treasurer..... Pierce, L. W.  
 Delegate..... Reavis, W. F.  
 Alternate Delegate..... Pomeroy, W. L.  
 Censors: Bussell, B. R.; Flanagan, W. M.; and Seaman, H. A.

**Members**

Atwood, George E., Waycross  
 Bates, W. B., Jr., Waycross (Asso.)  
 Bradley, D. M., Waycross  
 Bussell, B. R., Waycross  
 Calhoun, W. C., Waycross  
 Carswell, H. J., Waycross  
 Collins, B. E., Waycross  
 Davis, Floyd, Waycross  
 DeLoach, A. W., Waycross  
 Elder, E. B., Flagler Hospital, St. Augustine, Fla.  
 Ferrell, Thomas J., Waycross  
 Flanagan, W. M., Waycross  
 Fleming, A., Folkston  
 Gay, Joseph R., Waycross  
 Goldman, Benj., Hazlehurst  
 Goldwasser, Fred I., Alma  
 Hafford, W. C., Waycross  
 Hawkins, L. M., Blackshear  
 Henry, G. T., Blackshear  
 Hendry, Katherine M., Blackshear  
 Hendry, Wm. A., Blackshear  
 Jackson, Joseph M., Waycross (Asso.)  
 Johnson, R. L., Waycross (Hon.)  
 Knight, Arthur M., P. O. Box 65, Johns Hopkins Hospital, Baltimore 5, Md.

Lee, Walter E., Jr., U. S. Naval Hospital, Dublin (Asso.)  
 Mauldin, John W., Alma  
 McCollum, R. Roy, Jr., Kingsland  
 McCoy, W. R., Folkston  
 McCullough, Kenneth, Waycross  
 Minchew, B. H., Waycross  
 Mixson, W. D., Waycross (Hon.)  
 Muecke, H. W., Waycross  
 Oden, John W., Blackshear (Hon.)  
 Oden, Lewis H., Jr., Blackshear  
 Oden, T. E., Blackshear  
 Parker, Chas. O., Jr., Waycross (Asso.)

Penland, J. E., Waycross  
 Pierce, L. W., Waycross  
 Pomeroy, W. L., Waycross  
 Reavis, W. F., Waycross  
 Schneider, W. J., Folkston  
 Seaman, H. A., Waycross  
 Sharpe, W. W., III, Alma  
 Smith, Leo, Waycross  
 Stamps, Edward R., Waycross  
 Stillwell, J. D., Waycross  
 Stoner, W. P., Waycross  
 Terry, D. B., Homerville  
 Witmer, C. A., Waycross  
 Youmans, C. R., Hazlehurst

#### WARREN COUNTY

##### Officers

President.....Cason, H. B.  
 Vice-President.....Ware, F. L.  
 Secretary-Treasurer.....Davis, A. W.  
 Delegate.....Kennedy, H. T.  
 Alternate Delegate.....Ware, F. L.

##### Members

Cason, H. B., Warrenton  
 Davis, A. W., Warrenton  
 Kennedy, H. T., Warrenton  
 Ware, F. L., Warrenton

#### WASHINGTON COUNTY

##### Officers

President.....Newsom, N. J.  
 Vice-President.....Newsome, Emory G.  
 Secretary-Treas.....Rawlings, William  
 Delegate.....Taylor, R. L.  
 Alternate Delegate.....Overby, N.  
 Censors: Leonard, O. D.; Rawlings, F. B.; and Rogers, O. L.

##### Members

Dillard, J. B., Davisboro (Hon.)

Helton, B. L., Sandersville  
 King, W. R., Tenuille  
 Lennard, O. D., Sandersville  
 Newsom, N. J., Sandersville  
 Newsome, Emory G., Sandersville  
 Overby, N., Sandersville  
 Rawlings, F. B., Sandersville  
 Rawlings, William, Sandersville  
 Rogers, O. L., Sandersville  
 Taylor, Ralph L., Davisboro  
 Vickers, T. E., Harrison (Hon.)

#### WAYNE COUNTY

##### Officers

President.....Leaphart, J. A.  
 Vice-President.....Ritch, Thos. G.  
 Secretary-Treasurer.....Leaphart, E. C.  
 Delegate.....Tyre, J. Lawton  
 Alt. Delegate.....McFarlane, J. W.

##### Members

Colvin, J. T., Jesup (Hon.)  
 Leaphart, E. C., Jesup  
 Leaphart, J. A., Jesup  
 McFarlane, John W., Jesup  
 Ritch, Thos. G., Jesup  
 Ritch, Una F., Jesup  
 Tyre, J. Lawton, Screven  
 Yeomans, James W., Jesup

#### WHITFIELD COUNTY

##### Officers

President.....Wood, D. Lloyd  
 Vice-President.....Whitley, James R.  
 Secretary-Treasurer.....Ault, H. J.  
 Delegate.....Whitfield, Truman  
 Censors: Starr, Trammell, Erwin, H. L.; and Broaddrick, G. L.

##### Members

Ault, H. J., Dalton  
 Baldwin, Robert E., Dalton  
 Bradford, J. E., Spring Place  
 Bradley, R. H., Chatsworth  
 Broaddrick, G. L., Dalton  
 Dickie, E. H., Chatsworth  
 Erwin, H. L., Dalton  
 Kerr, George S., Dalton  
 Ragland, Fred B., Dalton  
 Rollins, J. C., Dalton  
 Rosen, E. A., Dalton  
 Sams, Henry L., Dalton  
 Starr, Trammell, Dalton  
 Steed, J. H., Dalton  
 Venable, John H., Dalton

Whitfield, Truman, Dalton  
 Whitley, James R., Dalton  
 Wood, D. Lloyd, Dalton  
 Wood, Jay G., Vinings

#### WILCOX COUNTY

##### Officers

President.....Busnell, J. A.  
 Vice-President.....Harris, V. L.  
 Secretary-Treasurer.....Owens, J. D.  
 Delegate.....Estes, J. M.  
 Alternate Delegate.....Owens, J. D.

##### Members

Busnell, J. A., Rochelle (Hon.)  
 Dorsey, Homer A., Pitts (Hon.)  
 Durham, Wm. P., Abbeville  
 Ellis, S. B., Pitts  
 Estes, J. M., Abbeville  
 Harris, V. L., Rochelle (Hon.)  
 Owens, J. D., Rochelle

#### WILKES COUNTY

##### Officers

President.....Wills, C. E.  
 Vice-President.....Pennington, W. R.  
 Secretary-Treasurer.....Adair, M. C.  
 Delegate.....Adair, M. C.  
 Censors: Simpson, A. W.; and Casteel, L. R.

##### Members

Adair, M. C., Washington  
 Casteel, L. R., Washington  
 Cheves, H. L., Union Point  
 Gibson, F. N., Thomson  
 Harriss, H. T., Washington  
 Johnson, Roy J., Jr., Thomson  
 Nash, T. C., Philomath  
 Pennington, W. R., Lincolnton  
 Simpson, A. W., Washington  
 Simpson, A. W., Jr., Washington  
 Smith, R. H., Lincolnton  
 Stephens, R. G., Washington  
 Wills, C. E., Washington  
 Wood, O. S., Washington

#### WORTH COUNTY

##### Officers

Secretary-Treas.....Sumner Gordon S.  
 Delegate.....Tracy, J. L.

##### Members

Brown, J. Hilton, Sylvester  
 Harris, E. C., Sylvester  
 Sumner, Gordon S., Sylvester  
 Tracy, J. L., Sylvester

#### NEWS ITEMS

The Bibb County Medical Society held its monthly meeting at Ridley Hall, Macon, November 4. Dr. Tom Harrold had charge of the program. Dr. A. M. Phillips, secretary.

\* \* \*

Dr. William S. Boyd, Augusta gynecologist and former instructor of biology at Armstrong Junior College, and a sample of his art work were recently featured in a section of Life Magazine devoted to paintings by physicians entitled "Doctors' Art". Dr. Boyd calls the reproduction of his oil painting "Fall Morning". In typical autumn tones the picture shows a Georgia farm scene.

\* \* \*

Dr. Barton Brown, Savannah physician, who was for a number of years in charge of the United States Quarantine Station at Cockspur Island, received congratulations on his 80th birthday anniversary November 5, at the U. S. Marine Hospital, Savannah, where he is a patient. Dr. Brown retired December 1, 1937. Dr. Brown has a keen sense of humor as exemplified by his wit. He is a constant reader of local and out-

of-town newspaper as well as news magazines and keeps extremely well posted on national and international affairs.

\* \* \*

Dr. Enoch Callaway, LaGrange, one of the South's pioneers in the medical attack on cancer, recently addressed a meeting of representatives of the American Cancer Society, and the Cancer Society of 12 Alabama counties at Birmingham. Dr. Callaway recently attracted national attention when he staged a barbecue in LaGrange for victims of the disease whose cure was apparent by physicians at the LaGrange City-County Hospital during the past 15 years. At least 100 persons attended. Their ages ranged from 16 to over 70. The gathering was held to dramatize the fact that cancer recognized in the early stage is curable. The story of the barbecue will be published in a national magazine early next year. Look for it!

\* \* \*

The Crawford W. Long Memorial Hospital staff dinner meeting was held in the dining room of the hospital, Atlanta, November 13. Program: "Arthroplasty of the



Hip", Dr. Thos. P. Goodwyn and Dr. H. Walker Jernigan; "Case of Plummer-Vinson's Syndrome", Dr. Edwin R. McCoy. Medical section meeting was held in the Medical Library. Round table symposium, "The Problem of Fever", led by Dr. Paul Beeson, professor of medicine, Emory University. Pediatric section and surgical section meetings were held in the Clinic Reception Room.

\* \* \*

Dr. Charles E. Dowman, Atlanta, announces the removal of his offices to 1028 West Peachtree Street, N. W., Atlanta. Practice limited to neurologic surgery.

\* \* \*

Dr. William H. Christian, formerly a colonel in the Army Medical Corps, announces the opening of his offices at 530 N. McDonough St., Decatur, for the practice of medicine.

\* \* \*

The Fulton County Medical Society held its dinner meeting at the Academy of Medicine, Atlanta, November 6. Scientific program: "New Treatment of Aerodynia" by Dr. Lee Bivings and Dr. George Lewis; "Angiocardiography" by Dr. H. S. Weens; "The Allergic Concept of Nasosin Disease—a New Technic for Nasal Smears" by Dr. James T. King.

\* \* \*

Dr. Wallace Clark, LaGrange physician, recently addressed the West Point Lions Club discussing the menace of socialized medicine.

\* \* \*

Dr. Ralph W. Durham, Macon, has been added to the Health Committee of the Macon YMCA, according to Dr. Alvin E. Siegel, chairman of the committee. Dr. Carl L. Anderson and Dr. J. D. Applewhite also serve on the committee whose purpose is to look after the health and welfare of Y boys and men and make such recommendations as may improve Y facilities.

\* \* \*

The Georgia Medical Society recently met at the society's hall, 612 Drayton St., Savannah. Paper: "The Present Day Status of Streptomycin in the Treatment of Tuberculosis" by Dr. G. H. Willis, medical director of the North Carolina State Sanatorium. Dr. G. H. Johnson, secretary.

\* \* \*

Dr. William Littell Funkhouser, Atlanta, announces the association of Dr. Richard W. Blumberg in the practice of pediatrics, 33 Ponce de Leon Ave., N. E., Atlanta.

\* \* \*

The Fifth District Medical Society fall meeting was held at the Academy of Medicine, Atlanta, October 10. Dr. Roy R. Kracke, dean of the Medical College of the State of Alabama, Birmingham, spoke on "Recent Advances in Hematology", and Dr. Tom D. Spies, professor of medicine-elect of Northwestern University Medical School, Chicago, followed with "Malnutrition." Officers elected were: Dr. D. Henry Poer, Atlanta, president; Dr. Harvey Griggs, Conyers, vice-president; and Dr. L. Minor Blackford, Atlanta, secretary.

\* \* \*

The Fourth District Medical Society held its first meeting since the end of World War II, at LaGrange, October 6, with 30 members present. Program: "Discussion of Anemias" by Dr. Byron Hoffman, Atlanta. Plans were made for quarterly meetings in the future, with the next meeting scheduled for February 10, 1948, at the Warm Springs Foundation, Warm Springs. The following officers were elected: President, Dr. Kenneth D. Grace, LaGrange; Vice-President, Dr. Charles Williams, West Point; and Secretary-Treasurer, Dr. James A. Johnson, Jr., Manchester.

\* \* \*

Dr. W. M. Gibson, a native of Milledgeville, who recently completed his internship after graduating more than a year ago from the University of Georgia School

of Medicine, Augusta, has located in Sparta for the practice of his profession.

\* \* \*

Dr. John W. H. Glasser, a native of New Jersey, announces his association with Dr. S. P. Holland, Blakely, for the practice of medicine. Dr. Glasser was educated at Princeton University and received his medical degree from Johns Hopkins University in 1937. In 1942 he entered the Army Medical Corps, serving two years at Lawson General Hospital, Atlanta, and for an equal period with the 62nd General Hospital in England and France. Following his discharge from the Army as a major, he returned to the Woman's Hospital in New York City for additional training in obstetrics and gynecology. He has completed the requirements for qualification for the American Board of Gynecology and Obstetrics and will take his examinations for the certificate in this specialty at an early date.

\* \* \*

Dr. J. A. Griffith, a native of Guntersville, Ala., and formerly a practicing physician of Gainesville, announces the opening of his office in the Harshbarger Bldg., Hiram, for the practice of medicine.

\* \* \*

The Georgia Psychological Association, Inc., 108 Fishburne Bldg., Emory University, through action of its board of directors, wishes to extend to psychiatrists, neurologists, pediatricians, and such other members of the Medical Association of Georgia as may be interested, an invitation to apply for affiliate membership in the Georgia Psychological Association. The association is founded for the advancement of the science and profession of psychology, for the encouragement of research and practice by qualified persons, and as a source of information and discussion for persons applying psychology to educational, industrial, clinical and related problems. For further information contact Hermon W. Martin, president, at the above address.

\* \* \*

Dr. B. Russell Burke, Atlanta, recently presented a paper, "Surgical Treatment in Certain Types of Defective Hearing" at the meeting of the Muscogee County Medical Society, Columbus.

\* \* \*

Dr. Curtis G. Hames, Claxton, who has been sharing the office of Dr. J. W. Daniel since his discharge from military service, recently moved into his new offices on North Newton Street, Claxton, for the practice of medicine. Since his discharge, Dr. Hames has completed post-graduate work at Columbia University, New York City, on "Arthritis", and an electrocardiograph course at the Michael Reese Hospital, Chicago.

\* \* \*

Dr. L. P. Holmes and Dr. G. T. Bernard, Augusta, recently attended the malignant disease seminar for Florida, Jacksonville. The purpose of the conference was to make available to the physicians of the Southeast the latest knowledge in the diagnosis and management of malignant diseases.

\* \* \*

Dr. George P. Jones, Jr. and Dr. John W. Martin recently assumed their duties as house physicians at the City Hospital, Brunswick.

\* \* \*

Dr. G. Lombard Kelly, Augusta, dean of the University of Georgia School of Medicine, recently attended sessions of the Association of American Medical Colleges held at Sun Valley, Idaho.

\* \* \*

Dr. W. D. Martin, Albany, who assumed duties 20 years ago as city health officer, working in that capacity until recently when he joined with the Sanitation Department of the Dougherty County Department of Public Health upon consolidation of the City and County Health Departments, recently resigned to the Health

Board because of ill health. Each member of the five-man Health Board expressed regret at Dr. Martin's retirement, and unanimously adopted a resolution regretting his resignation and praising the work he has accomplished through the years in the City of Albany and the County of Dougherty. They met in the new County Health Center at Highland Avenue and Jefferson Street for the first time since its completion. The new health center, constructed entirely by county funds and without State or Federal aid, cost between \$110,000 and \$115,000, and is one of the most modern structures of its type in the Southeast.

\* \* \*

Dr. James S. New, Augusta, announces the opening of his office at 108 Doctors Building, 1345 Greene Street, Augusta. Practice limited to neuropsychiatry.

\* \* \*

The Newton County Medical Society met at the home of Dr. Sydney L. Waites, Covington, October 30. Discussions were both interesting and informative. Dr. W. D. Travis, Covington, president, and Dr. J. B. Mitchell, Jr., Porterdale, secretary.

\* \* \*

Dr. D. Henry Poer, Atlanta, was guest speaker recently at the Texas Surgical Society, Galveston, Texas. The title of his paper was "The Management of Abdominal Wounds."

\* \* \*

Dr. Don F. Cathcart, Atlanta, has charge of arrangements for the annual meeting of the Phi Chi National Convention to be held in Atlanta, December 27-29.

\* \* \*

Dr. A. L. Morris, Young Harris, was recently released from the Medical Corps of the Army of the United States, after three years' service. Dr. Morris was assigned to Headquarters Kure Base for the original occupation of Japan, later serving with the 35th Medical Station Hospital, Kyoto, Japan. He announces the opening of offices for the practice of medicine at Young Harris.

\* \* \*

Dr. Dean Paschal, Dawson physician, recently addressed the Dawson Rotary Club. Dr. Paschal, introduced by Dr. Loring Stapleton, told of his experiences with the German people while in the American Occupied Zone in Southern Germany.

\* \* \*

Dr. A. M. Phillips, Macon physician, and a member of Macon Lodge No. 5, Free and Accepted Masons, recently received the highest honor in Masonry, the honorary 33rd Degree, in ceremonies at Washington, D. C. Congratulations!

\* \* \*

The Fulton County Medical Society held its dinner meeting at the Academy of Medicine, Atlanta, December 4. Scientific program: "Testosterone in Breast Cancer" by Dr. A. H. Letton; "Pulmonary Mycoses" by Dr. A. Worth Hobby; "A Fifty-Six Year Review of Medical and Surgical Practice" by Dr. J. L. Campbell. Report of recent meeting of U. S. Medical Consultants World War II by Atlanta members, Drs. D. Henry Poer, Dan C. Elkin, I. A. Ferguson, Jos. S. Skobba and Carter Smith.

\* \* \*

Dr. Harold P. McDonald, Atlanta, was recently appointed a member of the Registry of Genitourinary Pathology, formerly known as the Tumor Registry Committee, for one year.

\* \* \*

Dr. Harry Parks, Atlanta, recently took a course in electrocardiography under Dr. Frank H. Wilson, University of Michigan Medical School, Ann Arbor, Michigan.

\* \* \*

Dr. W. R. Richards, formerly of Greensboro, has returned to Calhoun where he has resumed the practice of medicine.

Dr. Roy J. Settle recently began his duties as health officer of Stephens, Rabun, and Habersham counties. Prior to coming with the Health Department he was connected with the Veterans' Administration. For five and one-half years he served with the United States armed forces in both the China-Burma-India and European theatres. Dr. Settle began his career in public health in 1940 in Williamson County, Tennessee. He is a native of South Carolina, having graduated at the Medical College of the State of South Carolina, Charleston.

\* \* \*

The Sixth District Medical Society held its winter meeting at Ridley Hall, Macon, December 4. Scientific program: "Address of Welcome," Dr. A. M. Phillips, Macon; "The Use of Amphetamine (Dexedrine) in the Treatment of Obesity", Dr. Holloway Bush, Macon; "Surgery of the Thyroid", Review of sixty-five consecutive cases, Drs. C. H. Richardson, Sr., and C. H. Richardson, Jr.; "Surgery of the Autonomic Nervous System", Dr. Milford B. Hatcher, Macon; "Public Health in Georgia, Yesterday, Today and Tomorrow", Dr. C. L. Ridley, Macon; "The Role of Radiology in the Diagnosis of Heart Disease", Dr. H. H. Tift, Macon; "Official Remarks", Dr. Steve P. Kenyon, Dawson, president of the Medical Association of Georgia. Election of officers.

The Woman's Auxiliary to the Sixth District Medical Society met at the Massee Apartments' Parlor, Macon, December 4. "Address of Welcome", Mrs. Charles Cooper, Macon; "Response", Mrs. T. C. Clodfelter, Milledgeville; "Legislation as it Pertains to the Medical Profession", Mrs. John Elliott, Savannah, State chairman of legislation. Business session and election of officers.

\* \* \*

Dr. T. M. Spruell, Temple, widely known physician, celebrated his 80th birthday, October 13. Dr. Spruell has established one of the most outstanding records in the medical profession in Georgia, having practiced medicine in Carroll County for the past 55 years, enjoys the best of health, and is very active, both in the practice of medicine and civic affairs.

\* \* \*

The Third District Medical Society held its fall meeting at the Cherokee Lodge, Columbus, November 13. Program: Call to order by the President, Dr. Albert Bush, Hawkinsville; Invocation by Rev. John E. Richards, Columbus, pastor, First Presbyterian Church; Address of Welcome by Dr. Arthur N. Berry, Columbus, president, Muscogee County Medical Society. Scientific program: "Factors in the Production of Headache", Dr. Richard Wilson, Atlanta; "Carcinoma of the Colon and Rectum, with Emphasis on Early Diagnosis", Dr. J. H. Sherman, Augusta; "Recent Advances in Hematology", Dr. Roy R. Kracke, Birmingham, dean, Medical Department, University of Alabama; "Non-Eclamptic Hypertension in Pregnancy", Dr. John R. McCain, Atlanta; Report of Councilor, Dr. W. G. Elliott, Cuthbert, and business session. Officers are: Dr. Albert Bush, Hawkinsville, president; Dr. Lee Williams, Cordele, vice-president; and Dr. R. C. Pendergrass, Americus, secretary-treasurer.

The Woman's Auxiliary to the Third District Medical Society met at the Woman's Club, Columbus, November 13. Prayer, Mrs. W. L. Cooke, Columbus; Address of Welcome, Mrs. F. B. Schley, Columbus; Response to Address of Welcome, Mrs. Steve Kenyon, Dawson; Address, Dr. William C. Cook, Columbus; "Mode of Living and Medicine in Australia, As Seen by a Doctor's Wife", Mrs. George Conner, Columbus; "Some Phases of the Woman's Auxiliary's Role in Health Education", Dr. Edgar H. Greene, Atlanta, president-elect, Medical Association of Georgia; Business session; Talk on Orangization, Mrs. Sam Anderson, Milledgeville; Talk on Objectives, Mrs. W. G. Elliott, Cuthbert; Round Table Discussion led by Mrs. Luther Wolff, Columbus.



Dr. R. C. Goolsby, Forsyth and Monroe County physician and typical "country doctor", has received from the University of Louisville School of Medicine, Louisville, Ky., of which he is a graduate, a certificate given in recognition of his 57 years of service. Dr. Goolsby was 85 years old November 8 and is truly typical of what we tenderly speak of as "the country doctor", dispensing along with his pills, homely advice, comfort and the human understanding and sympathy, which often goes as far as any medicine in affecting a cure of the ills that beset mankind.

\* \* \*

Dr. Joel L. Porter, Rutledge physician, who has given 41 years of his life to medical care of Rutledge and surrounding area, was honored Sunday, November 9, when chimes were dedicated in his honor at the Rutledge Methodist Church.

\* \* \*

Douglas County Memorial Hospital, Douglasville, which is a 20-bed structure, is completed. The building of red brick was originally a school house and had been purchased by the local American Legion Post for a club house, but was given to the local hospital authority by the American Legion for a hospital when the hospital decided to locate elsewhere. The building will contain two four-bed wards, four semi-private rooms, one private room, nursery, maternity rooms, operating and sterilizer rooms, diet kitchen, x-ray and dark rooms, two rooms equipped with bath facilities for doctors and nurses, office and reception rooms. The grounds have been landscaped and shrubbery planted.

\* \* \*

Dr. and Mrs. William Darracott Travis, Covington, held open house November 24, marking their 50th wedding anniversary. Dr. and Mrs. Travis received their guests in the living room of the lovely English colonial residence decorated profusely with cut flowers, which were gifts of many friends.

\* \* \*

Dr. W. H. Wall, Blakely, announces that Dr. John W. McLeod, formerly of Grady Memorial Hospital, Atlanta, is associated with him in the practice of medicine and surgery at the new Wall Hospital, Columbia Street, Blakely.

\* \* \*

Dr. W. D. Willcox, Fitzgerald, announces that he will temporarily limit his practice to obstetrics.

\* \* \*

Dr. M. E. Winchester, Brunswick, Glynn County health commissioner, recently attended the annual convention of the American Public Health Association, Atlantic City, N. J. Dr. Winchester is a member of the governing council of the national body, and is vice-chairman of the health officers association.

#### POST-GRADUATE ASSEMBLY, ATLANTA.

JAN. 28-30, 1948

The Fulton County Medical Society announces a three-day Post-Graduate Assembly to be held in Atlanta January 28, 29 and 30, 1948, immediately following the Regional Meeting of the College of Surgeons. Because of the College of Surgeons meeting, surgical subjects will not be emphasized in this assembly. The program has been arranged to help the average doctor keep abreast of the newer developments, but it is believed it will offer something of value to every man and woman practicing medicine in the Southeast.

The College of Surgeons invites all physicians in this region to their meeting.

#### EIGHTH ANNUAL CONGRESS ON INDUSTRIAL HEALTH

The Council on Industrial Health will hold its Eighth Annual Congress on Industrial Health in the Cleveland Auditorium, Cleveland, on January 5 and 6, 1948. These dates immediately precede the Interim Session of the American Medical Association, which will be held in the Auditorium on January 7 and 8. General practitioners supply a large part of the medical services

which workers receive through industry, and they are cordially invited to attend these industrial health sessions. The program of the Congress is being constructed with general practitioners in mind and will include discussions of first aid and emergency services in industry, physical examinations, administrative practices, applied physiology, aviation medicine, radiation medicine and practical expositions of occupational disease management, traumatic surgery and rehabilitation. Since full use of medical services in industry depends on support from management and the worker, the essential relationships will be discussed. Industry needs medicine as a practical ally and to promote human relations. The Industrial Health Congresses are intended to further these objectives.

#### NEW BOOK

HUMAN PHYSIOLOGY, by William F. Hamilton, Ph. D., professor of physiology, University of Georgia School of Medicine. The need for a new concise textbook on Human Physiology was investigated thoroughly before this publication was undertaken. This investigation established a pattern which has been carefully followed. The result is a text which is not ponderous and yet completely meets the needs of the curriculum. We believe this new approach should and will be welcomed by both Faculty and Students.

Before a chapter was written the author carefully planned the work to fit this pattern. Suggestions from many competent physiologists were compiled and adopted as the plan developed. After the entire manuscript was prepared the author, himself an outstanding authority on the subject, had his work critically reviewed by Dr. Henry C. Bazett and his staff of the Department of Physiology of the School of Medicine of the University of Pennsylvania. Many of the suggestions and recommendations of this group have been incorporated in the manuscript. Published by F. A. Davis Company, 1914 Cherry St., Philadelphia.

#### MANDATORY FIRST AID

A recent Texas law requires all school bus drivers to have Red Cross Standard and Advanced First Aid training. Numerous communities and states have laws requiring such training also for firemen and policemen.

#### TALKING BOOKS

Veterans Administration hospitals are included in the Library of Congress recorded book service for those unable to use their eyes for reading. Red Cross Gray Ladies assist with the special phonographs, which are plugged in by the patients' beds. Classical and popular fiction, magazines, newspapers, and short stories have been recorded on 12-inch discs.

#### DISASTER DAYS

Three hundred and twelve disaster operations, in which 95,600 persons were assisted, were carried on by the American Red Cross in the fiscal year 1946-47.

#### NATIONAL BLOOD PROGRAM

The Red Cross has a new National Blood Program, which aims to furnish blood and blood derivatives without cost nationwide when fully expanded.

#### FAMILY EMERGENCIES

To meet family emergencies during the fiscal year 1946-47, Home Service in Red Cross chapters provided approximately 12 million dollars for financial assistance to servicemen, veterans, and their dependents.

#### NO WOMEN IN WHITE

American Red Cross personnel in interior China found many hospitals facing the problem of aversion to nurses' white uniforms—white being the color traditionally associated with death in China. Problem was solved by dyeing uniforms blue and sewing red crosses on them for nurses' identification.

## OBITUARY

*Dr. Edgar Buren Baughn*, aged 68, prominent and beloved Colquitt physician, died October 26, 1947. Dr. Baughn, son of the late Col. and Mrs. V. B. Baughn, was born in Colquitt where he spent his entire life. He completed Colquitt school and graduated from the College of Physicians and Surgeons of Baltimore in 1904. He practiced medicine in Colquitt for more than 40 years, and was especially interested in obstetrics and children's diseases. Besides his professional services, he contributed much to the civic and religious life of Colquitt. He served as mayor of the city and was a steward in the Colquitt Methodist Church; he was a Mason, and a member of a medical fraternity. Survivors include three sisters, Mrs. T. B. Perry, Dublin; Mrs. Kate Wilkin, Colquitt; Mrs. Maude Taylor, Arlington; and a large number of nieces and nephews. Funeral services were held at the Colquitt Methodist Church, with the pastor, Rev. James W. May, officiating, and Rev. N. H. Williams and Rev. J. Frank Turner assisting. Burial was in the family lot of the City Cemetery, Colquitt.

\* \* \*

*Dr. Whitfield Walker Crook*, aged 68, died in Cuthbert November 11, 1947, of heart disease and pulmonary embolism after an illness of several weeks.

Dr. Crook was a native of Jacksonville, Alabama, the son of the late Judge Emmett Farrar Crook and Sally Walker Crook. His preliminary education was received at Marion Institute, Alabama, and he was graduated from the University of the South, Sewanee, Tennessee. He was a member of Chi Zeta Chi Medical Fraternity.

Dr. Crook practiced medicine in Cuthbert for 34 years, giving freely of his professional services to the needy and he responded to any duty required of him by the local medical society. He was greatly loved and trusted by his patients.

He was a member of the Randolph-Terrell Medical Society, the Medical Association of Georgia, and the American Medical Association. Dr. Crook was also a member of the Cuthbert Baptist Church, was Past Worshipful Master of Washington Lodge Number 19 F. and A. M., a member of Cuthbert Chapter Number 31 Royal Arch Masons, of Cuthbert Council Number 17, and of St. Paul Commandery, Albany, Georgia. He was an active Legionnaire, being a member of Geeslin-Sharley Post Number 35. He was a veteran of the Spanish-American War and of World War I, serving as a captain in the medical corps 82nd Division, serving part time overseas.

Dr. Crook was greatly beloved by the public and especially by those who received the benefit of his medical service. Cuthbert regarded him as one of its most valued citizens, and in his death the Randolph-Terrell Medical Society has lost a valued member, the people a true friend, and the State of Georgia a respected citizen.

Surviving him are his widow, the former Miss Nellie Key, of Cuthbert; two daughters, Mrs. William P. Smith, and Miss Sarah Walker Crook, of Decatur; and two grandsons, Pat Smith, Jr., and Whitfield Crook Smith, of Decatur.

Rev. James R. Webb, Jr., of Cuthbert, officiated at the funeral services which were conducted by the Shaffer Funeral Home. Burial was in Greenwood Cemetery, Cuthbert.

\* \* \*

*Dr. Albert Jefferson Green*, aged 65, prominent physician of Union City died in an Atlanta hospital, October 23, 1947. Dr. Green graduated from Emory University School of Medicine, Atlanta, in 1916. He was a member of the Fulton County Medical Society, the Medical Association of Georgia, the Fifth District Medical Society and the American Medical Association. He is survived by his wife; three sons, Ed M. Green, George Green and Albert J. Green, all of Union City; a brother and two sisters. Funeral services were held at the Fairburn Methodist Church, with Rev. H. C. Emory, Rev. Sewell H. Dixon, Rev. I. J. Cheves, and Rev. W. M. Hinton officiating. Burial was in Fairburn Cemetery, Fairburn.

*Dr. Paul Peniston*, aged 80, retired prominent physician and surgeon of Newnan, died November 13, 1947. Dr. Peniston graduated from Emory University School of Medicine, Atlanta, in 1889, and had been a practicing physician and surgeon at Newnan for 59 years. He was a member of the First Methodist Church. He is survived by one daughter, Mrs. Charles L. Moses, Atlanta; four sons, Dr. Paul G. Peniston, Oakland, Calif.; Dr. J. B. Peniston, and E. H. Peniston, Newnan; and T. J. Peniston, Atlanta; and three sisters. Funeral services were held at the graveside, with Dr. R. C. S. Young and the Rev. J. E. Hannah officiating. Burial was in Oak Hill Cemetery, Newnan.

\* \* \*

*Dr. Harold Irwin Reynolds*, aged 60, beloved Athens physician, died October 30, 1947. He was a native of Oglethorpe County; born in Lexington, the son of the late Dr. William Howard Reynolds and Mrs. Mai Smith Reynolds. Dr. Reynolds graduated from the University of Georgia, Athens, and with the degree of Doctor of Medicine from Johns Hopkins University School of Medicine, Baltimore, Md., in 1912. While at Johns Hopkins he was a member of the Pithistomy Club and served his internship at the famed medical school. He entered the Army Medical Corps in 1917 and held the rank of captain. He was in the Meuse-Argonne engagement, and came back to Athens in 1919. In 1921 he was made assistant physician at the University of Georgia and became physician to that institution in 1923, a post he filled until January of this year, when he became consulting physician. In 1930 he was made a fellow of the American College of Physicians. He was a member of the Clarke County Medical Society, the Medical Association of Georgia and the American Medical Association. Dr. Reynolds is survived by one daughter, Miss Caroline Reynolds, Athens; his mother, Mrs. W. H. Reynolds, Lexington; two brothers, William H. Reynolds, Jr., and James Reynolds, both of Lexington. Funeral services were held from the Emanuel Episcopal Church, Athens, with the former rector, Rev. David C. Wright, now of Lexington, Va., officiating. An honorary escort included members of the Clarke County Medical Society. Burial was in Oconee Hill Cemetery, Athens.

\* \* \*

*Dr. W. Frank Wells*, aged 63, prominent Atlanta and Hapeville physician, died in a private hospital, November 7, 1947. Dr. Wells was born in Clayton County, but spent most of his life in Atlanta. He was graduated from the Atlanta College of Medicine, now Emory University School of Medicine, Atlanta, in 1911, and in 1932 was elected a fellow of the American College of Surgeons. Prominent in Masonic work, Dr. Wells was at one time head of all subordinate bodies of the York Rite Masons. In 1927 he held the office of grand high priest of Georgia Royal Arch Masons, and in 1933 was named Grand Master of the grand council of the Royal and Select Master Masons of Georgia. He was also a past grand commander of the grand commandery of Knights Templar of Georgia. He was a Shriner and a 32nd degree Mason. He was elected to serve on the grand council of the United States and was elected grand master of the grand council of Royal and Select Masons. He was an active member of the Hapeville Methodist Church, where he was a steward and chairman of the finance committee.

Dr. Wells was a member of the Fulton County Medical Society, the Medical Association of Georgia, the American Medical Association, the Southern Medical Association, and a fellow of the Southeastern Surgical Congress. Survivors are his wife, the former Miss Brooksie Stilwell of Montezuma; one daughter, Mrs. Claude S. Williams, Hapeville; three sons, W. Frank Wells, Bishop; David and John Wells, Hapeville; mother, Mrs. G. F. Wells, Hapeville; seven sisters, five brothers and four grandchildren. Funeral services were held at the Hapeville Methodist Church, with the Rev. W. C. Budd, the Rev. Joe Thraikill and the Rev. J. Hamby Barton officiating. Burial was in West View Cemetery, Atlanta.



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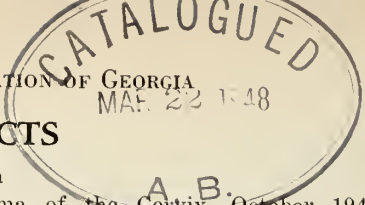
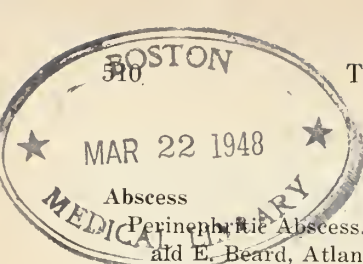
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 Daniel, Mrs. Eugene, 230 Howard Ave., Atlanta  
 Daniel, Mrs. Walter W., 1705 Pelham Road, N. E., Atlanta  
 Davenport, Mrs. T. F., 1038 Peachtree Battle Ave., Atlanta  
 Davis, Mrs. Shelley C., 1259 Peachtree Battle Ave., Atlanta  
 Davis, Mrs. W. B., 720 W. Walker St., College Park  
 Davison, Mrs. Hal M., 2888 Habersham Road, Atlanta  
 Davison, Mrs. T. C., 30 Valley Road, N. E., Atlanta  
 Denton, Mrs. John F., 1503 Peachtree St., Atlanta  
 Dew, Mrs. J. Harris, 214 Peachtree Battle Ave., Atlanta  
 Dickson, Mrs. Roger W., 28 Collier Road, Atlanta  
 Dorough, Mrs. W. S., 2450 Peachtree Road, Atlanta  
 Dougherty, Mrs. Mark S., 76 Brighton Road, Atlanta  
 Dowman, Mrs. Charles E., 630 Linwood Ave., N. E., Atlanta  
 Dunstan, Mrs. E. M., 604 Ponce de Leon Place, Decatur



- Duval, Mrs. Ward B., 905 Cascade Ave., S. W., Atlanta  
 Edgerton, Mrs. M. T., 788 Penn Ave., N. E., Atlanta  
 Edwards, Mrs. Wm. T., Jr., Clairmont Road, Decatur  
 Equen, Mrs. Murdock, 2505 Habersham Road, N. W., Atlanta  
 Fancher, Mrs. J. K., 3094 E. Pine Valley Road, N. W., Atlanta  
 Felber, Mrs. Ernest, 147 W. Wesley Road, N. W., Atlanta  
 Ferrell, Mrs. Haskins, 17 Prescott St., Atlanta  
 Foster, Mrs. Kimsey E., 207 E. Columbia Ave., College Park  
 Frierson, Mrs. Norton, 787 Penn Ave., N. E., Atlanta  
 Fuller, Mrs. George W., 1384 Fairview Road, N. E., Atlanta  
 Funkhouser, Mrs. W. L., 2419 Woodward Way, Atlanta  
 Funke, Mrs. John, 343 4th St., N. E., Atlanta  
 Gershon, Mrs. Nathan L., 305 10th St., N. E., Atlanta  
 Glenn, Mrs. Wadley R., Dunwoody  
 Glisson, Mrs. C. Stedman, 1012 Cumberland Road, N. E., Atlanta  
 Goodwyn, Mrs. Thomas P., 2480 Woodward Way, Atlanta  
 Graydon, Mrs. E. L., 982 Courtney Drive, N. E., Atlanta  
 Green, Mrs. Samuel, 697 E. Morningside Drive, Atlanta  
 Greene, Mrs. Edgar H., 1442 W. Wesley Road, Atlanta  
 Griffin, Mrs. Claude, 28 Brookhaven Drive, Atlanta  
 Hall, Mrs. Charles E., Jr., 908 Piedmont Ave., N. E., Atlanta  
 Hamff, Mrs. L. Harvey, 906 Briarcliff Road, N. E., Atlanta  
 Hamm, Mrs. William G., 2877 Habersham Road, Atlanta  
 Harris, Mrs. J. Frank, 491 Seminole Ave., Atlanta  
 Hauck, Mrs. A. E., 99 Princeton Way, Atlanta  
 Henry, Mrs. Lamont, 201 Brighton Road, N. E., Atlanta  
 Hess, Mrs. George, 505 McDonough Boulevard, Atlanta  
 Howell, Mrs. Guy C., 1123 Berkshire Road, N. E., Atlanta  
 Heyser, Mrs. D. T., 5910 Glenridge Road, N. E., Atlanta  
 Hines, Mrs. John H., 21 Mabry Road, Atlanta  
 Hobby, Mrs. A. Worth, 1740 Meadowdale Ave., N. E., Atlanta  
 Hodges, Mrs. Fred B., Jr., 2255 Virginia Place, N. E., Atlanta  
 Holden, Mrs. Farish C., 1256 N. Morningside Drive, Atlanta  
 Holloway, Mrs. George A., 489 Westover Drive, N. W., Atlanta  
 Horton, Mrs. B. E., 1150 North Ave., N. E., Atlanta  
 Howard, Mrs. Charles K., 761 Kenolia Drive, S. W., Atlanta  
 Howell, Mrs. Stacy C., 434 Brentwood Drive, N. E., Atlanta  
 Jacobs, Mrs. John L., 2883 Andrew Drive, N. W., Atlanta  
 Jernigan, Mrs. H. Walker, 352 Redland Road, Atlanta  
 Jernigan, Mrs. Sterling H., 2258 Virginia Place, N. E., Atlanta  
 Johnson, Mrs. McClaren, 23 Collier Road, N. E., Atlanta  
 Jones, Mrs. Charles, 2853 North Hills Drive, N. E., Atlanta  
 Kemper, Mrs. Clifton G., 1711 Homestead Ave., N. E., Atlanta  
 King, Mrs. James T., 1062 Oxford Road, N. E., Atlanta  
 Kirkland, Mrs. Spencer A., 106 Peachtree Battle Ave., Atlanta  
 Kite, Mrs. J. H., 639 E. Ponce de Leon Ave., Decatur  
 Klugh, Mrs. George F., 395 10th St., N. E., Atlanta  
 Krugman, Mrs. Phillip L., 570 Park Ave., S. E., Atlanta  
 Lake, Mrs. Wm. F., 826 Peachtree St., Atlanta  
 Landham, Mrs. J. W., 4199 Club Drive, Atlanta  
 Lange, Mrs. J. Harry, 2870 Arden Road, N. W., Atlanta  
 Laws, Mrs. Clarence L., 3209 Habersham Road, Atlanta  
 Letton, Mrs. A. H., 487 Wabash Ave., N. E., Atlanta  
 Levin, Mrs. Jack M., Ansley Hotel, Atlanta  
 Linch, Mrs. A. O., 943 Rosedale Road, N. E., Atlanta  
 Logue, Mrs. R. Bruce, 145 Westminster Drive, N. E., Atlanta  
 Lokey, Mrs. Hugh M., 256 14th St., N. E., Atlanta  
 Longino, Mrs. D. R., 1344 Lanier Blvd., N. E., Atlanta  
 Lower, Mrs. Emory G., 619 Myrtle St., N. E., Atlanta  
 McClure, Mrs. R. E., 238A Peachtree Circle, Atlanta  
 McDaniel, Mrs. J. G., 743 Piedmont Ave., Atlanta  
 McDonald, Mrs. Harold P., 2400 W. Wesley Road, Atlanta  
 McDougall, Mrs. Calhoun, 2899 Andrews Drive, Atlanta  
 McGinty, Mrs. A. Park, 1701 W. Paces Ferry Road, Atlanta  
 McLoughlin, Mrs. C. J., 2465 Rivers Road, N. W., Atlanta  
 McRae, Mrs. Floyd W., 3053 Habersham Road, Atlanta  
 Main, Mrs. Emory H., 323 E. Columbia Ave., College Park  
 Malone, Mrs. O. T., 379 Collier Road, Atlanta  
 Manget, Mrs. J. D., Jr., 816 Wildwood Road, N. E., Atlanta  
 Masseur, Mrs. Joseph C., 1146 Lullwater Road, Atlanta  
 Matthews, Mrs. O. H., 61 Barksdale Drive, Atlanta  
 Maulding, Mrs. Homer R., 136 Glenn Circle, Decatur  
 Mestre, Mrs. Ricardo, 581 Martina Drive, N. E., Atlanta  
 Minor, Mrs. H. W., 445 PPeachtree-Dunwoody, Atlanta  
 Mitchell, Mrs. Wm. E., 438 W. Wesley Road, N. W., Atlanta  
 Morris, Mrs. S. L., Jr., 58 Brighton Road, Atlanta  
 Nall, Mrs. J. D., 1029 Rosedale Drive, N. E., Atlanta  
 Nabors, Mrs. Dewey T., 2380 Dellwood Drive, Atlanta  
 Neel, Mrs. Malcolm M., 709 Campbell Drive, Hapeville  
 Newberry, Mrs. Richard E., 2160 Ponce de Leon, Atlanta  
 Nippert, Mrs. Philip H., 1015 Peachtree Battle Drive, Atlanta  
 O'Neal, Mrs. Buford, Chamblee  
 Parks, Mrs. Harry, 2479 Dellwood Drive, Atlanta  
 Pendergrast, Mrs. Wm. J., 1112 St. Charles Ave., Atlanta  
 Phillips, Mrs. Hayward S., 1738 Homestead Ave., Atlanta  
 Pinson, Mrs. C. H., 2334 Edinburgh Terrace, N. E., Atlanta  
 Poer, Mrs. D. Henry, 124 Peachtree Memorial, Atlanta  
 Powell, Mrs. Vernon E., 235 Sagamore Drive, N. W., Atlanta  
 Pruitt, Mrs. Marion C., Henry Grady Hotel, Atlanta  
 Quillian, Mrs. Garnett, 587 Moreland Ave., N. E., Atlanta  
 Read, Mrs. Ben S., 993 Stovall Boulevard, Atlanta  
 Read, Mrs. Joseph C., 3970 Vermont Road, N. E., Atlanta  
 Rieser, Mrs. Charles, 1633 Paces Ferry Road, N. W., Atlanta  
 Rhodes, Mrs. C. A., 129 Brighton Road, N. E., Atlanta  
 Richardson, Mrs. Jeff L., 969 Clifton Road, N. E., Atlanta  
 Roberts, Mrs. C. W., Ponce de Leon Apts., Atlanta  
 Roberts, Mrs. M. Hines, 393 W. Wesley Road, Atlanta  
 Roberts, Mrs. Stewart, 16 Woodcrest Ave., N. W., Atlanta  
 Robinson, Mrs. L. B., 3230 W. Shadowlawn Ave., Atlanta  
 Rogers, Mrs. J. Harry, 1325 Peachtree St., Atlanta  
 Rouglin, Mrs. Louis C., 1050 Ponce de Leon Ave., Atlanta  
 Rudder, Mrs. Fred F., 797 St. Charles Ave., N. E., Atlanta  
 Sage, Mrs. Dan Y., 47 Inman Circle, N. E., Atlanta  
 Sandison, Mrs. Calvin, 3025 Nancy Creek Road, Atlanta  
 Sauls, Mrs. H. C., 2387 Howell Mill Road, Atlanta  
 Schenck, Mrs. H. C., 210 Camden Road, N. E., Atlanta  
 Selman, Mrs. W. A., 760 Penn Ave., N. E., Atlanta  
 Shackleford, Mrs. B. L., 120 Blackland Road, Atlanta  
 Shanks, Mrs. Edgar D., 1431 Fairview Road, N. E., Atlanta  
 Shepard, Mrs. V. Duncan, 101 Peachtree Memorial, Atlanta  
 Smith, Mrs. Carter, 450 W. Wesley Road, Atlanta  
 Smith, Mrs. Linton, Pershing Hotel, Atlanta  
 Smith, Mrs. Randolph, 37 LaFayette Drive, N. E., Atlanta  
 Stampa, Mrs. Sam, Atlantan Hotel, Atlanta  
 Stephens, Mrs. A. L., Jr., 1690B Rock Springs Road, Atlanta  
 Stewart, Mrs. Calvin B., 21 W. Andrews Drive, Atlanta  
 Strickler, Mrs. C. W., Jr., 340 Peachtree Battle Ave., Atlanta

Swanson, Mrs. Cosby, 10 Cherokee Road, Atlanta  
 Thebaut, Mrs. Ben R., 216 Coventry Road, Decatur  
 Thomason, Mrs. W. L., 137 W. Wesley Road, Atlanta  
 Thompson, Mrs. D. O., 2855 Peachtree Road, Atlanta  
 Tidmore, Mrs. T. L., 963 Plymouth Road, Atlanta  
 Turk, Mrs. L. N., Jr., 1516 N. Morningside Drive, Atlanta  
 Turner, Mrs. John W., 157 17th St., Atlanta  
 Upshaw, Mrs. C. B., 394 W. Wesley Road, Atlanta  
 Van Buren, Mrs. E., 837 Clifton Road, N. E., Atlanta  
 Varner, Mrs. John B., 2788 Peachtree Road, Atlanta  
 Walker, Mrs. Exum, 3320 Piedmont Road, Atlanta  
 Ward, Mrs. Charles S., 983 Rosedale Road, N. E., Atlanta  
 Waters, Mrs. W. C., Jr., 878 Virginia Ave., N. E., Atlanta  
 Weinberg, Mrs. James L., 2356 Montview Drive, N. W., Atlanta  
 Weinstein, Mrs. Alfred A., Biltmore Hotel, Atlanta  
 West, Mrs. C. M., 1659 Pelham Road, N. E., Atlanta  
 Whipple, Mrs. Robert L., Jr., 225 Huntington Road, N. W., Atlanta  
 Williams, Mrs. George A., 135 Montgomery Ferry Drive, Atlanta  
 Williams, Mrs. George J., 40 Maddox Drive, N. E., Atlanta  
 Willingham, Mrs. T. L., 20 Highland Drive, N. E., Atlanta  
 Wood, Mrs. R. Hugh, Roswell Road, Atlanta  
 Woolley, Mrs. Lawrence F., 1607 Barclay Place., N. E., Atlanta  
 Yampolsky, Mrs. Joseph, 746 Brookridge Drive, N. E., Atlanta

#### SIXTH DISTRICT

Manager, Mrs. Sam Anderson, State Hospital, Milledgeville

#### Baldwin County

President, Mrs. E. W. Allen, Allen's Invalid Home, Milledgeville

#### Members

Allen, Mrs. E. W., Allen's Invalid Home, Milledgeville  
 Allen, Mrs. H. D., Allen's Invalid Home, Milledgeville  
 Allen, Mrs. T. P., N. Jefferson St., Milledgeville  
 Anderson, Mrs. S. A., Milledgeville State Hospital, Milledgeville  
 Bailey, Mrs. L. A., Columbia St., State Hospital, Milledgeville  
 Binion, Mrs. Richard, Green St., Milledgeville  
 Bostick, Mrs. W. A., Milledgeville State Hospital, Milledgeville  
 Bradford, Mrs. R. W., Milledgeville State Hospital, Milledgeville  
 Brown, Mrs. Steve W., 205 Forrest Hills Apt., Augusta  
 Cary, Mrs. H. R., 210 N. Jefferson St., Milledgeville  
 Combs, Mrs. Joe D., Milledgeville State Hospital, Milledgeville  
 Cox, Mrs. C. G., West End, Milledgeville

Clodfelter, Mrs. T. C., Milledgeville State Hospital, Milledgeville  
 Echols, Mrs. G. L., Milledgeville State Hospital, Milledgeville  
 Fulghum, Mrs. C. B., 210 N. Jefferson St., Milledgeville  
 Garrard, Mrs. J. I., Milledgeville State Hospital, Milledgeville  
 Longino, Mrs. L. P., Green St., Milledgeville  
 Richardson, Mrs. C. H., Columbia St., Milledgeville  
 Sikes, Mrs. Z. S., Milledgeville State Hospital, Milledgeville  
 Walker, Mrs. E. Y., Columbia St., Milledgeville  
 Walker, Mrs. N. P., Green St., Milledgeville  
 Woods, Mrs. O. C., N. Jefferson St., Milledgeville  
 Yarbrough, Mrs. Y. H., Milledgeville State Hospital, Milledgeville

#### Bibb County

President, Mrs. J. R. Shannon Mays, 195 Elizabeth Place, Macon

#### Members

Anderson, Mrs. Carl L., 280 College St., Macon  
 Anderson, Mrs. J. C., 106 Stanislaus, Macon  
 Applewhite, Mrs. J. D., 565 College St., Macon  
 Atkinson, Mrs. Harold, 101 Buford Place, Macon  
 Barton, Mrs. William, Waverland Drive, Macon  
 Bashinski, Mrs. Benjamin, 120 Buford Place, Macon  
 Baxley, Mrs. W. W., 219 Buford Place, Macon  
 Bazemore, Mrs. Wallace, 127 Beverly Place, Macon  
 Billingshurst, Mrs. G. A., 1055 Ingleside Ave., Macon  
 Boswell, Mrs. W. C., 322 Buford Place, Macon  
 Branan, Mrs. Fred H., Riverside Apartments, Macon  
 Brown, Mrs. Roland A., 2611 Forsyth Road, Macon  
 Clay, Mrs. J. Emory, 364 Cherokee Ave., Macon  
 Cooper, Mrs. Charles F., 146 Beverly Place, Macon  
 Corn, Mrs. Ernest, 555 College St., Macon  
 Dove, Mrs. W. B., 135 Boulevard, Macon  
 Dupree, Mrs. George W., Gordon  
 Dupree, Mrs. J. T., Gordon  
 Edenfield, Mrs. R. W., 224 Riverdale Drive, Macon  
 Farmer, Mrs. Hall, 118 Pio Nona Ave., Macon  
 Fountain, Mrs. J. A., Jackson Springs Road, Macon  
 Golsan, Mrs. Willard, 974 Courtland Ave., Macon  
 Goldstein, Mrs. Jay, Warner Robins Goodman, Mrs. Leon J., Katherine Court, Macon  
 Goolsby, Mrs. R. C., Jr., 116 Rogers Ave., Macon  
 Hall, Mrs. John L., 231 High St., Macon  
 Harrold, Mrs. Charles, 550 Orange St., Macon  
 Harrold, Mrs. Thomas, Jr., 567 College St., Macon

Hatcher, Mrs. Milford B., 333 Elm Ridge Ave., Macon  
 Henderson, Mrs. D. T., Vineville Court, Macon  
 Hinton, Mrs. C. C., 2514 Forsyth Road, Macon  
 Holmes, Mrs. J. P., 252 Overlook Ave., Macon  
 Houser, Mrs. F. M., 108 Corbin Ave., Macon  
 James, Mrs. L. P., 208 Corbin Ave., Macon  
 Jarratt, Mrs. W. D., Jr., Twin Pines Drive, Macon  
 Jordan, Mrs. W. K., 203 High St., Macon  
 Kay, Mrs. J. B., Bryson  
 Keene, Mrs. O. F., 117 Rogers Ave., Macon  
 King, Mrs. J. L., 223 Buford Place, Macon  
 Mass, Mrs. Max, 125 Prado, Macon  
 Mays, Mrs. J. R. S., 195 Elizabeth Place, Macon  
 McAllister, Mrs. R. W., 922 Ingleside Ave., Macon  
 McLaughlin, Mrs. Charles, 921 Ingleside Ave., Macon  
 McMichael, Mrs. V. H., River Road, Macon  
 Mobley, Mrs. Walter, 563 College St., Macon  
 Newman, Mrs. W. A., 571 Orange St., Macon  
 Newton, Mrs. Ralph, 650 Ridge Ave., Macon  
 Patton, Mrs. Sam, 141 Beverly Place, Macon  
 Phillips, Mrs. A. M., 109 Buford Place, Macon  
 Porch, Mrs. Leon, 200 Riverdale Drive, Macon  
 Rawls, Mrs. Lewis L., 112 Summit Ave., Macon  
 Reiffer, Mrs. R. M., Lanier Heights, Macon  
 Richardson, Mrs. Charles H., Sr., 359 Cherokee Ave., Macon  
 Richardson, Mrs. Charles H., Jr., Riverdale Apts., Macon  
 Richardson, Mrs. Rhea, 2516 Forsyth Road, Macon  
 Ridley, Mrs. Charles, Jr., Fredonia Apts., Macon  
 Rogers, Mrs. T. E., 120 Clisby Place, Macon  
 Ross, Mrs. T. L., Jr., 310 Nottingham Drive, Macon  
 Rozar, Mrs. A. R., Shirley Hills, Macon  
 Rubin, Mrs. S. N., Gordon  
 Smith, Mrs. Allen, 312 Overlook Ave., Macon  
 Thompson, Mrs. O. R., 112 Pio Nona Ave., Macon  
 Vinson, Mrs. Frank, Ft. Valley  
 Walker, Mrs. D. D., 120 Stanislaus, Macon  
 Watson, Mrs. Ed R., 1402 Vineville Ave., Macon  
 Weaver, Mrs. H. G., 120 Calloway St., Macon  
 Williams, Mrs. W. A., 240 Stanislaus, Macon  
 Wood, Mrs. J. A., 214 Vineville Ave., Macon  
 Woods, Mrs. Charles J., 179 North Ave., Macon



Zachary, Mrs. J. D., Gray  
Chrisman, Mrs. W. W., 112 Corbin  
Ave., Macon

### Washington County

President, Mrs. J. B. Dillard, Davis-  
boro

### Members

Dillard, Mrs. J. B., Davisboro  
Helton, Mrs. B. L., Sandersville  
King, Mrs. W. R., Tennille  
Lennard, Mrs. O. D., Tennille  
Newsome, Mrs. N. J., Sandersville  
Newsome, Mrs. Emory G., Sanders-  
ville

Overby, Mrs. N., Sandersville  
Peacock, Mrs. E. S., Sandersville  
Rawlings, Mrs. F. B., Sandersville  
Rogers, Mrs. O. L., Sandersville  
Taylor, Mrs. R. L., Sandersville

### SEVENTH DISTRICT

Manager, Mrs. Wilbur Hall, Cal-  
houn

### Cobb County

President, Mrs. Murl Hagood, Mari-  
etta

### Members

Allen, Mrs. G. O., Cherokee St.,  
Marietta  
Benson, Mrs. W. E., Whitlock Ave.,  
Marietta  
Benson, Mrs. W. H., Whitlock Ave.,  
Marietta  
Bailey, Mrs. E. M., Acworth  
Burleigh, Mrs. Bruce D., Pine Crest  
Circle, Marietta  
Crawley, Mrs. Walter G., McDonald  
St., Marietta  
Colquitt, Mrs. A. O., Claymore Drive,  
Marietta  
Davis, Mrs. E. C., Acworth  
Elder, Mrs. C. D. Kennesaw Ave.,  
Marietta  
Fowler, Mrs. Herbert, Cherokee St.,  
Marietta  
Fowler, Mrs. R. W., McDonald St.,  
Marietta  
Hagood, Mrs. G. F., Church St.,  
Marietta  
Hagood, Mrs. M. M., Whitlock Ave.,  
Marietta  
Mitchell, Mrs. W. C., Smyrna  
McCall, Mrs. M. A., Acworth  
Musarra, Mrs. Elmer, Wright St.,  
Marietta  
Perkinson, Mrs. W. H., Church St.,  
Marietta  
Welch, Mrs. L. L., Church St.,  
Marietta

### Floyd County

President, Mrs. Lee Battle, 107  
Westmore Road, Rome

### Members

Davis, Mrs. Ralph Jones, Rome  
Dawson, Mrs. Harry, Shannon  
\*Dellinger, Mrs. A. H., Member-at-  
large, Rome  
\*Dellinger, Mrs. Raiden W., Mem-  
ber-at-large, Rome  
Garner, Mrs. J. S., Rome  
Gilbert, Mrs. J. W. M., Rome  
\*Harbin, Mrs. Lester, Member-at-  
large, Rome  
Harbin, Mrs. William, Rome  
Jenkins, Mrs. Oliver W., Lindale  
Johnson, Mrs. Ralph N., Rome  
McCall, Mrs. John T., Jr., Rome  
McCord, Mrs. Ralph B., Rome

\*Sewell, Mrs. William A., Member-  
at-large, Rome  
Smith, Mrs. Inman, Rome

\*Williams, Mrs. Norton L., Member-  
at-large, Rome

\*Note: These members-at-large paid  
dues last fall and they were sent  
to the National Treasurer on that  
basis before Floyd County dues  
and list were received by treas-  
urer. They joined Floyd Auxili-  
ary when it was organized.

### Gordon County

President, Mrs. R. D. Walter, Cal-  
houn

### Members

Billings, Mrs. Jordan Eli, 303 N.  
Wall St., Calhoun  
Hall, Mrs. Wilbur Dallas, 306 Wil-  
lard, Calhoun  
Walter, Mrs. Robert Daniel, 334 S.  
Wall St., Calhoun

### Stephens County

President, Mrs. C. L. Ayers, Big A  
Road, Toccoa

### Members

Ayers, Mrs. C. L., Big A Road,  
Toccoa  
Chaffin, Mrs. E. F., 743 E. Tugalo  
St., Toccoa  
Good, Mrs. W. H., Sr., Toccoa Falls  
Good, Mrs. W. H., Jr., Toccoa Falls  
Henry, Mrs. C. M., 106 Henderson  
Drive, Toccoa  
Ishell, Mrs. J. E. D., 706 E. Tugalo  
St., Toccoa  
Schaefer, Mrs. W. B., 110 E. Whit-  
man St., Toccoa  
Shiflet, Mrs. R. E., 209 E. Doyle  
St., Toccoa  
Singer, Mrs. A. G., 210 Boulevard,  
Toccoa  
Watters, Mrs. J. Q., 107 Henderson  
Drive, Toccoa

### EIGHTH DISTRICT

Manager, Mrs. Sage Harper, Douglas

### Glynn County

President, Mrs. Haywood Moore,  
113 Crandall St., Brunswick

### Members

Avera, Mrs. J. B., 715 Richmond  
St., Brunswick  
Burford, Mrs. R. S., 1017 Egmont  
St., Brunswick  
Coe, Mrs. H. M., 3612 Franklin  
Ave., Brunswick  
Collier, Mrs. T. W., 1117 Palmetto  
Ave., Brunswick  
Christie, Mrs. Ainslie, 1901 F St.,  
Brunswick  
Greer, Mrs. C. B., 1127 Union St.,  
Brunswick  
Johnston, Mrs. T. H., 2564 Gordon  
Oaks, Brunswick  
Moore, Mrs. Haywood, 113 Crandall,  
Brunswick  
Mitchell, Mrs. L. C., 204 2nd Ave.,  
Brunswick  
Robben, Mrs. F. J., 822 Union St.,  
Brunswick  
Simmons, Mrs. J. W., 924 Union  
St., Brunswick  
Thomas, Mrs. W. C., Darien Road,  
Brunswick  
Towson, Mrs. I. G., Cottage No. 9,  
Sea Island  
Willis, Mrs. T. V., 1310 Palmetto  
Ave., Brunswick

### Ware County

President, Mrs. J. R. Gay, 504 Ava  
St., Waycross

### Members

Bradley, Mrs. D. M., 629 Nichols  
St., Waycross  
Bussell, Mrs. B. R., Euclid Ave.,  
Waycross  
Calhoun, Mrs. W. C., Alice Street  
Extension, Waycross  
Collins, Mrs. B. E., 2003 Cherokee  
Drive, Waycross  
DeLoach, Mrs. A. W., 1015 Cherokee  
Drive, Waycross  
Ferrell, Mrs. T. J., St. Marys Drive,  
Waycross  
Flanagin, Mrs. W. M., 909 Carswell  
Ave., Waycross  
Folks, Mrs. W. M., Cherokee Drive,  
Waycross  
Gay, Mrs. J. R., 504 Ava St., Way-  
cross  
Hafford, Mrs. W. C., 229 Riverside  
Drive, Waycross  
Jackson, Mrs. J. M., 803 Mary St.,  
Waycross  
Johnson, Mrs. R. L., 509 Nichols  
St., Waycross  
Knight, Mrs. A. M., Jr., 110 Thomas  
St., Waycross  
McCullough, Mrs. Kenneth, Satilla  
blvd., Waycross  
Minchew, Mrs. B. H., 412 Williams  
St., Waycross  
Muecke, Mrs. H. W., Dean Drive,  
Waycross  
Oden, Mrs. L. H. Jr., Park Ave.,  
Blackshear  
Penland, Mrs. J. E., 912 Elizabeth  
St., Waycross  
Pierce, Mrs. L. W., 1003 Atlantic  
Ave., Waycross  
Pomeroy, Mrs. W. L., 1421 St.  
Mary's Drive, Waycross  
Reavis, Mrs. W. F., 1105 Satilla  
blvd., Waycross  
Seaman, Mrs. H. A., 202 Brunel  
St., Waycross  
Smith, Mrs. Leo, 1507 St. Mary's  
Drive, Waycross  
Stephens, Mrs. C. M., Ware Hotel,  
Waycross  
Stoner, Mrs. W. P., 707 Haines  
Ave., Waycross  
Stillwell, Mrs. J. D., 803 Scruggs  
St., Waycross  
Witmer, Mrs. C. A., 501 Gilmore  
St., Waycross

### Honorary Members

Atwood, Mrs. G. E., 1110 Elizabeth  
St., Waycross  
Carswell, Mrs. H. J., 505 State St.,  
Waycross  
Mixon, Mrs. W. D., 619 Nichols St.,  
Waycross  
Walker, Mrs. J. L., 502 Gilmore  
St., Waycross  
Walker, Mrs. R. C., 1102 St. Marys  
Drive, Waycross

### NINTH DISTRICT

Manager, Mrs. Robert Jones, Canton

### Barrow County

President, Mrs. W. T. Randolph,  
Winder

### Members

Almand, Mrs. C. B., Candler St.,  
Winder

Brookshire, Mrs. Paul, Jr., Athens St., Winder  
 Freeman, Mrs. Ralph, Sr., Hoschton  
 Harris, Mrs. E. R., Center Street, Winder  
 McDonald, Mrs. E. M., Athens St., Winder  
 Randolph, Mrs. W. Quentin, Athens St., Winder  
 Randolph, Mrs. W. T., Athens St., Winder  
 Ross, Mrs. S. T., Candler Street, Winder  
 Russell, Mrs. A. B., Russell Town, Winder

#### Cherokee-Pickens County

President, Mrs. Charles Andrews, Canton

#### Members

Andrews, Mrs. Charles, Canton  
 Brooke, Mrs. Carter, Canton  
 Coker, Mrs. G. N., Canton  
 Hendrix, Mrs. Arthur, Canton  
 Jones, Mrs. Robert, Canton  
 Looper, Mrs. Ben, Canton  
 Pettit, Mrs. J. T., Canton  
 Roper, Mrs. C. J., Jasper  
 Roper, Mrs. E. A., Jasper  
 Scofield, Mrs. I. F., Tate  
 Vansant, Mrs. T. J., Woodstock

#### Gwinnett County

President, Mrs. Thos. L. Parker, Duluth

#### Members

Chastain, Mrs. J. R., Buford  
 Hutchins, Mrs. W. J., Buford  
 Hutchins, Mrs. Harry, Buford  
 Kelley, Mrs. D. C., Lawrenceville  
 Parker, Mrs. Thomas L., Lawrenceville  
 Puett, Mrs. W. W., Norcross  
 Williams, Mrs. A. D., Lawrenceville

#### Habersham County

President, Mrs. J. B. Jackson, Clarksville

#### Members

Brabson, Mrs. T. H., Cornelia  
 Garrison, Mrs. D. H., Clarksville  
 Hardman, Mrs. C. T., Tallulah Falls  
 Jackson, Mrs. J. B., Clarksville  
 Roberts, Mrs. B. J., Cornelia

#### TENTH DISTRICT

##### Richmond County

President, Mrs. W. J. Williams, 2907 Henry St., Augusta

#### Members

Agee, Mrs. M. P., Cardinal Drive, Augusta  
 Akerman, Mrs. Joseph, 321 15th St., Augusta  
 Allen, Mrs. Lane, Minicota Route No. 3, N. Augusta, S. C.  
 Battey, Mrs. W. W., Jr., 2239 Kings Way, Augusta  
 Battey, Mrs. W. W., Sr., 326 Hickman Road, Augusta  
 Beard, Mrs. Byron, 1445 Troupe St., Augusta  
 Bell, Mrs. J. E., 1010 Hickman Road, Augusta

Bowen, Mrs. J. B., 1538 Schley St., Augusta  
 Brittingham, Mrs. John W., Pine Needle Road, Augusta  
 Burpee, Mrs. Claude M., 1127 Monte Sano Ave., Augusta  
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 Davis, Mrs. Abe, 1302 Wilson, Augusta  
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 Matthews, Mrs. W. Eugene, 2735 Walton Way, Augusta  
 McGhee, Mrs. R. C., 2817 Hillcrest Ave., Augusta  
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 New, Mrs. James S., 402 East Ave., N. Augusta, S. C.  
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 Roule, Mrs. Victor, 2521 Walton Way, Augusta  
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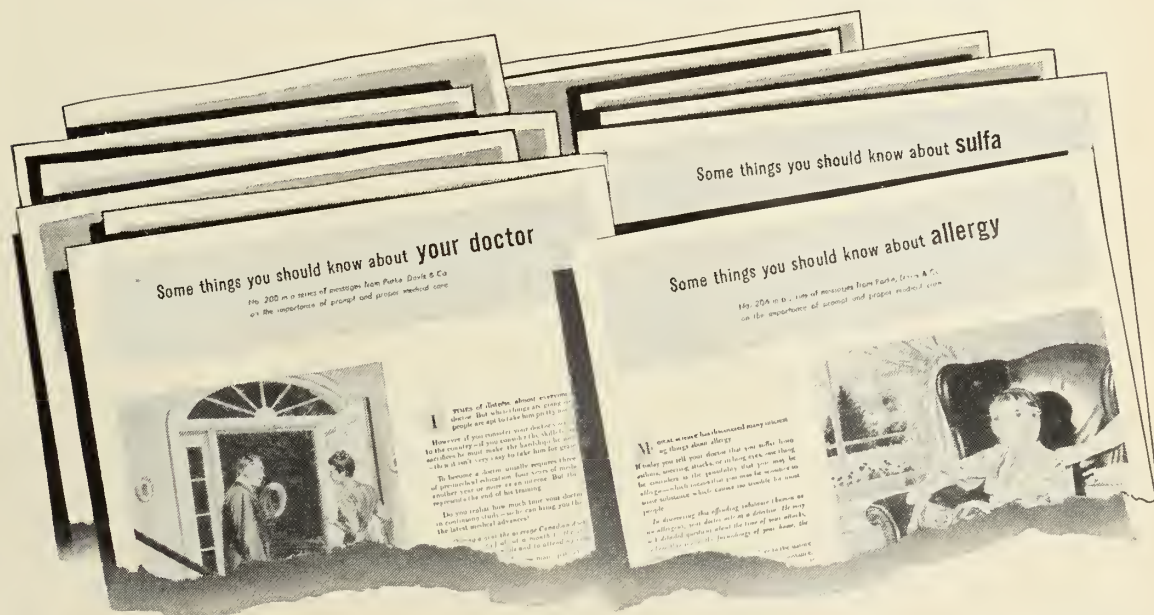
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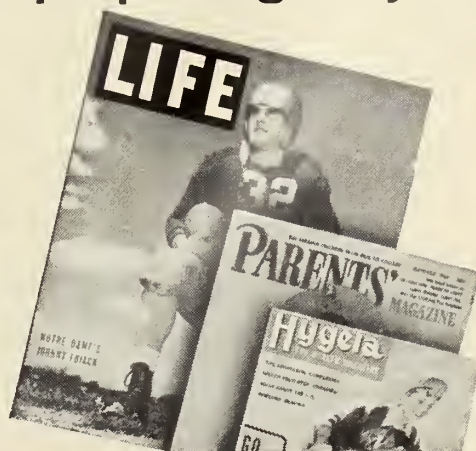
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